HOT Web Surfing Tips, And Great Radio Sites — Page 44

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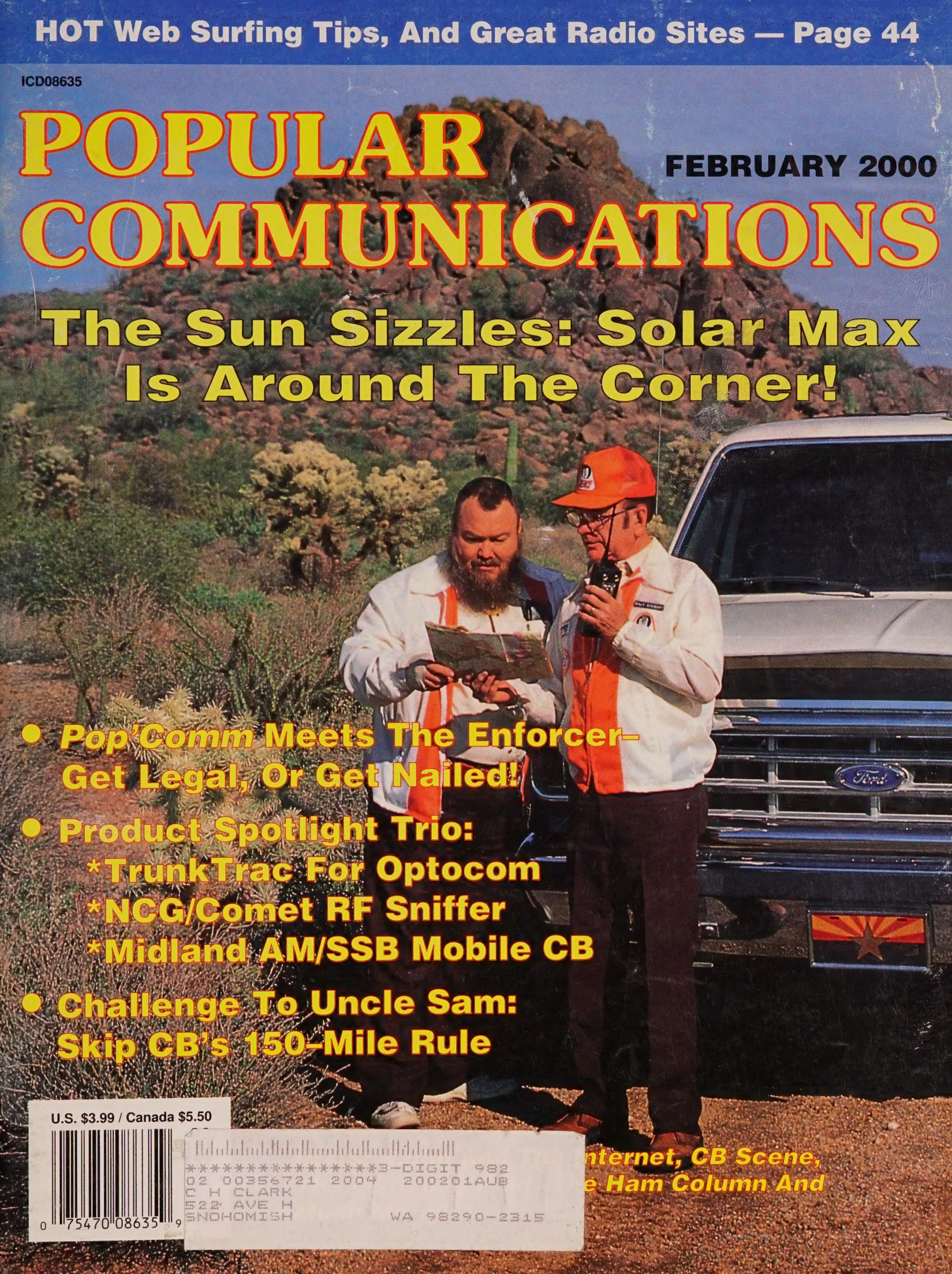

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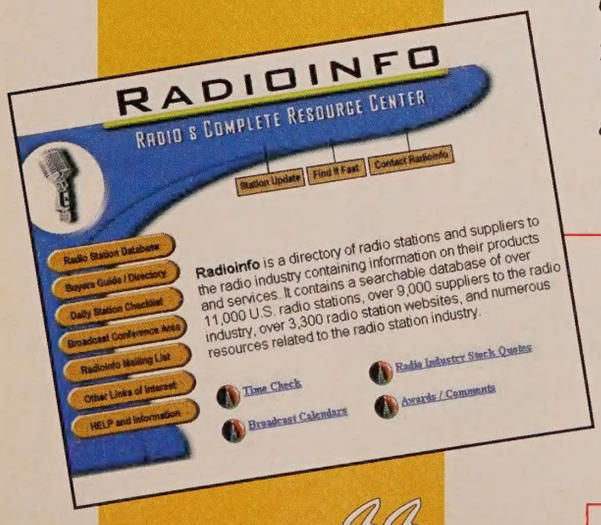
Contents

POPULAR COMMUNICATIONS

Volume 18, Number 6 February 2000

21

32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Time Check
Broadcast Calendars
Radio Industry Stock Quotes
Awards / Comments

44

8 **Solar Cycle 23: Solar Maximum Is Around The Corner** — By Marshall Space Flight Center, Space Sciences Laboratory

10 **Pop'Comm Meets The Enforcer — The Message Is Clear: Operate Within The Law Or Learn The Hard Way** — by Harold Ort

16 **KDJI: Radio & The Old West: When A Flood Washed It Away, KDJI Borrowed a 100-Watt Rig!** — by Alice Brannigan

Product Spotlights:

50 • **TrunkTrac For Optocom** — by Ken Reiss

52 • **NCG/Comet's RF Sniffer** — by Gordon West

65 • **Midland 79-290 AM/SSB Mobile CB** — by Alan Dixon

21	*A Plethora Of Two-Tube Receivers, And An Eclectic Radio*	The Radio Connection
28	*Interference: Separating Truth And Myth*	Scan Tech
32	*Dixon Asks For FCC Rule Change And Two Terrific New Rigs From Cherokee*	CB Scene
34	*Satellite Messaging With A $99 Communicator*	Radio Resources
40	*Navigating International SW BC Bands The Easy Way*	World Band Tuning Tips
44	*HOT Web Surfing Tips, And Great Radio Sites!*	Radio & The Internet
49	*Strange On-Air Antics YOU Can Hear*	The Pirate's Den
53	*Easy Listening Targets: Democratic Voice Of Burma, And The Voice Of Sudan*	Clandestine Communiqué
54	*DXing The Contiguous 48*	Broadcast DXing
56	*Logbooks: Your Ham Radio History*	The Ham Column
58	*Adventist World Radio Closes Down Costa Rican SW Facility, And Germany's RIAS Is Now 24-Hours-A-Day!*	The Listening Post
68	*U.S. Coast Guard News, News, And More News*	Communications Confidential
75	*Uncle Charlie Is Back In Business, And Petition To Eliminate CB's 150-Mile Rule Formally Accepted For Filing*	Washington Beat
80	*Barking For Help*	The Loose Connection

Departments

4	*Tuning In* — An Editorial
6	*Pop'Comm P.O.*— Letters
35	*How I Got Started*
42	*Product Parade*
79	*Readers' Market*

On The Cover

William G. Stewart II (left) and Walter L. Stewart of the Superstition REACT, Inc. Team C320 in Mesa, Arizona, practice a search in the desert. Emergency responders, when using CB Channel 9, sometimes inadvertently respond to calls from more than 150-miles away. Because of the FCC's 150-mile CB rule, these and other "skip" contacts are considered a violation of Part 95, CB rule 13. *Pop'Comm* columnist, Alan Dixon has petitioned the FCC to eliminate this useless rule. For details, be sure to read "The Washington Beat" on page 75. (Photo by Larry Mulvehill)

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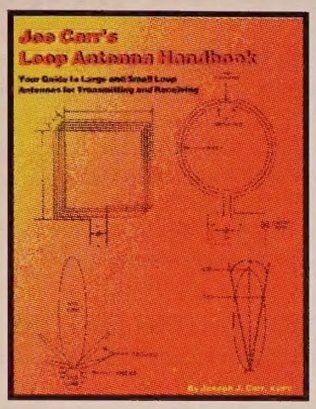

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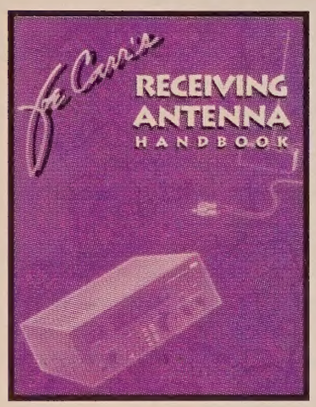

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tuning in

An Editorial

Waking Up From The FCC's Nightmare

If you've never had the opportunity to work for a large bureaucracy — like Uncle Sam — you've missed the chance to witness humanity in action. Perhaps inaction is more accurate.

Back in 1958, when the Class-D Citizens Radio Service — CB — was created out of a slice of amateur radio 27 MHz frequencies, the bureaucrats were no different than they are today. With heads buried in the day-to-day paperwork regimen and buck-passing games that's the hallmark of any functional government, they conceived and passed more rules and regulations than an old yardstick-wielding, cranky 1930s school teacher. Full speed ahead on a one-way train-of-no-return, the bureaucrats collectively created more headaches for the rest of us thinking, law-abiding citizens than we'll ever be able to clean up. But thankfully, there are those among us that still rise to the challenge and hold the Washington suits' dirty little feet to the fire. I speak of *Pop'Comm* columnist, Alan Dixon, N3HOE.

Please note that Alan is a licensed amateur radio operator. He also enjoys CB. (Fact is, many hams use CB, but they aren't always quick to let others know it — but they also cry when the dog dies, watch Bonanza and I Love Lucy reruns, and even have been known to shoot skip on 11-meters).

In October, Alan submitted a Petition for Rulemaking to the FCC regarding Section 95.413(a)(9) CB Rule 13 that prohibits CBers from communicating with other stations more than 250 kilometers (155.3 miles) away. And what's interesting, about two weeks later, on November 12, the Commission formally accepted Dixon's petition, paving the way for possible change in this absurd rule.

This will be an on-going process, but as we go to press, the next step is the FCC assigning a Rule Making (RM) number, although the Wireless Telecommunications Bureau, Private Wireless Division may dismiss any petition without action. I just spoke with Dixon and he feels that's unlikely because, " . . . this issue has not been visited in recent years, it seeks a measure of 'deregulation' which is extremely politically correct at the FCC today, and it's a formal filing."

". . . thankfully, there are those among us that still rise to the challenge. . ."

Once, he says, an RM number is assigned by the FCC, "such action will be published in the Federal Register and at the FCC Website, fcc.gov. Comment and reply periods will open briefly, typically consecutive periods of 30 and 15 days, respectively."

Dixon further writes, in explaining the bureaucratic process, "If comments are favorable, the measure goes to the five Commissioners for a majority vote." But as he observes, that's not the end of the process. There will be additional public comment and reply comment periods as it makes its way through the system. But the point is, as Dixon says, " . . . hopefully, by the time you read this, a docket number will have been assigned and the matter opened up for public comment." Check the FCC Website and remember that they now allow online filing of comments.

Despite the fact that our Nation's Washington establishment has gone rule-crazy-head-over-heels for more years than I even remember, deep down, I really believe there's *someone* at the Commission saying, "Hey, this Dixon fellow is right. Maybe we should practice what we preach about getting rid of unnecessary and burdensome regulations, and get this 155-mile CB rule changed." I want to believe it can happen; that common sense and logic will finally overcome years of ignorance about the CB service and the frequencies it occupies.

Getting Serious About CB

From the onset, back in '58, the CB service was — and still is — considered a

(Continued on page 78)

BY HAROLD ORT, N2RLL, SSB-596

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EDITORIAL STAFF

Harold Ort, N2RLL, SSB-596, Editor
(Internet e-mail: PopularCom@aol.com)
Tom Kneitel, K2AES/SSB-13, Senior Editor
(Internet e-mail: K2AES@juno.com)
Alycia Nicholsen, Assistant Editor
Richard S. Moseson, W2VU, Online Coordinator
(Internet e-mail: W2VU@amsat.org)

CONTRIBUTING EDITORS

Richard "RD" Baker, Utility Communications
Ed Barnat, TCA-44, CB SSB
Peter J. Bertini, K1ZJH, Restoration/Electronics
Joe Carr, K4IPV, Antennas
Bruce Conti, AM/FM Broadcasts
Joseph Cooper, Projects and Broadcast Band
Gerry L. Dexter, Shortwave Broadcast
Alan Dixon, Legislative Affairs
Jock Elliott, SSB-734, Citizens Band
Eric Force, Radio and the Internet
Kirk Kleinschmidt, NTØZ, Amateur Radio
Ian Poole, SW Broadcasting
Bill Price, N3AVY, Humor/Communications
Ken Reiss, Technical/Scanning
Edward Teach, Pirate and Alternative Radio
J.T. Ward, Scanning
Gordon West, WB6NOA, Radio Resources

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Elizabeth Ryan, Art Director
Barbara McGowan, Associate Art Director
Edmond Pesonen, Electronic Comp. Mgr.
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Emily Leary, Assistant Production Manager
Hal Keith, Technical Illustrator
Larry Mulvehill, WB2ZPI, Photographer

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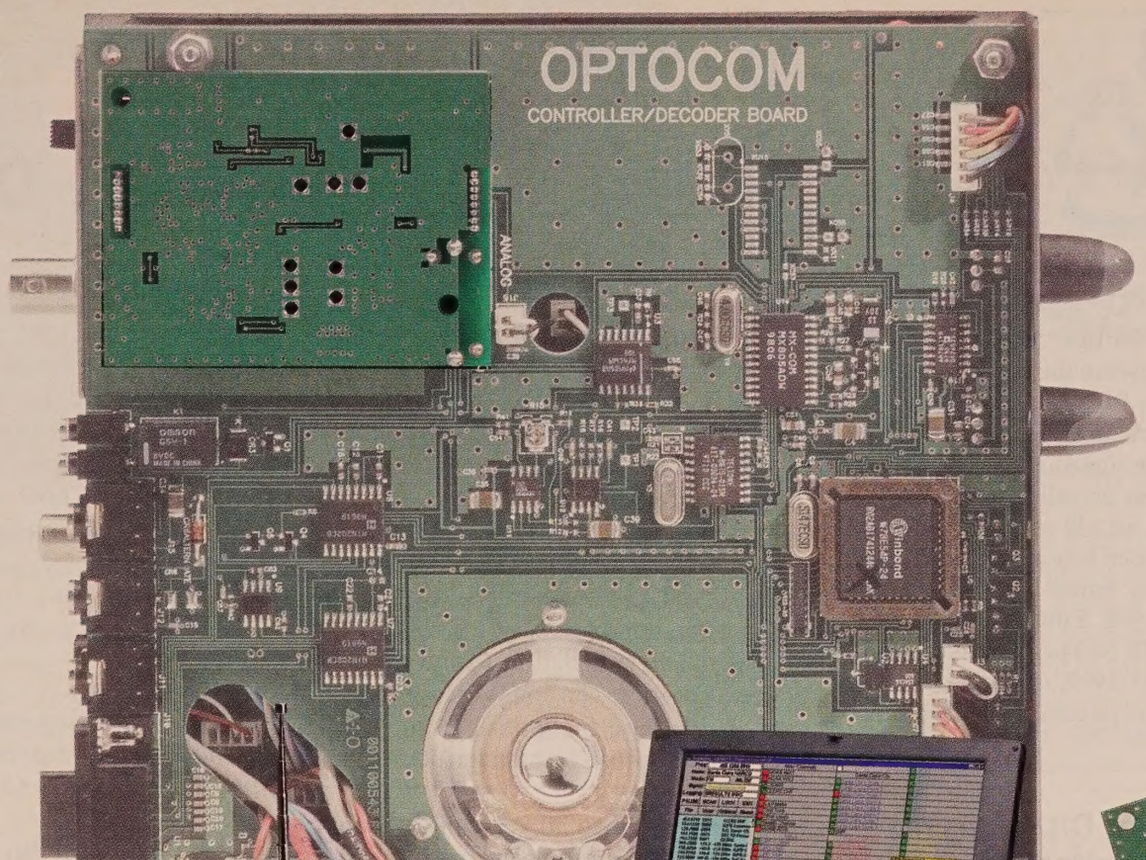

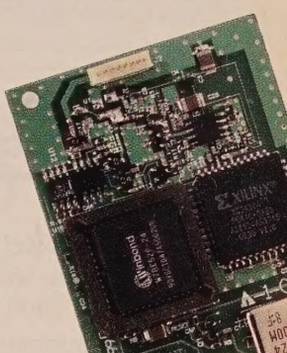

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Each month, we select representative reader letters for our "Pop'Comm P.O." column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid E-mail address. Upon request, we will withhold a sender's name if the letter is used in "Pop'Comm P.O." Address letters to: Harold Ort, N2RLL, SSB-596, Editor, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801-2909, or send E-mail via the Internet to <popularcom@aol.com>.

Help For Discharging Batteries

Dear Editor:

That was a well-written and thorough article on your solar power hookup in the September 1999 issue of *Pop'Comm*. The only problem I see is that sometimes batteries do not like to be connected in parallel on a long term basis. This is because of slight differences in voltage which cause a current to circulate between them and cause them to discharge one another. The usual remedy for this on the load side is to use a diode on each battery's output lead, keeping in mind that there will be a voltage drop across the diode. On the charging side, the fix is to usually feed the batteries through separate diodes or current limiting resistors.

73,
David C. Ivarson, W3WBE
Collegeville, PA 19426

An Epitaph — Of Sorts

Dear Editor:

Wither REACT! The arrogant leadership of REACT has had only one "primary mission" — egomania and greed. This covert and corrupt group launched into a litany of projects and intrigues which wasted vast amounts of time and money with little benefit to the organization. Mindless secrecy has been a hallmark of their existence. The peasants were consulted only after the organization's resources were so depleted that they were required to rubber-stamp numerous dues increases to "Save REACT" at conventions, which hardly represented the overall membership.

Imaginative expense accounts, ridiculous copyright infringement actions, and efforts to intimidate teams and councils, perceived as irreverent, have disenchanted many. The "leadership's" dynasty is perpetuated by control of the candidates and disqualifying ballots to suit the purpose. The self-serving slash-and-burn tactics of these irresponsible and cowardly bullies must be halted if REACT is to survive.

After more than 30 years of dedicated service to the community, my team was finally targeted for extortion with unfounded and unspecified charges that we had violated a sacred (but secret) commandment which could only be expunged with money. The tactic is certainly effective: no charges were made, no evidence presented, no defense allowed, and no known appeal process = no justice!

We were one of the few teams in Southern California still making any effort to monitor Channel 9 when we were terminated "for cause." Bob Leef recently commented that we had been a "Traditional Team" presumably because we had clung to the honorable traditions of REACT, before the tyrants took power, and though we are not exactly dead, that is not a bad epitaph.

Harry W. Horton, N6BWE
Temple City, CA

Who's On First?

Dear Editor:

There seems to be some confusion in the ham community as to exactly when the year 2000 arrives on the planet. Some hams are telling me that it arrives at 0001 UTC on 12/31/99, which would correspond to 6 p.m. CST. My logic, which can be faulty at times, says that since there are six additional time zones from CST to the International Dateline, and taking into consideration that we gain a day going west past this line, that the year 2000 would arrive on the planet at 6:01 a.m. CST on 12/31/99.

If you have some small corner available in your magazine, could you please straighten out this confusion? Also, there is the problem with New Zealand and the Marshall Islands, both of which are west of the line, but are in the time zone east of the line.

Bob Schultz,
St. Louis Park, MN

Dear Bob,

I just convened an emergency meeting of the highly-respected Pop'Comm *WorldTime Advisory Council and we've come to the following conclusion: The world's "day," whether it's tomorrow or the first day of the New Year, officially "begins" at the International Dateline. So, at midnight local time at the Dateline, the planet would officially enter 2000. (At least by a vote of 10 to 8, that's what we think).*

That has no bearing on when our radio *world — using the UTC time standard — enters the new year: 0000 UTC on January 1. Of course, the Earth's journey around the Sun still isn't complete as all of South and North America must experience their shot at the new year. Bob, this, as you can see, is certainly one of life's little mysteries that's probably best understood by everyone about 4:30 a.m. on January 1 (New York time) when Dick Clark is back home in his flannel pajamas singing "Time Is On My Side."*

Thanks For The Memories

Dear Editor:

If I remember my history correctly, New York area utilities built a power plant, called Seabrook, about 15 years ago. The State regulators said it was unnecessary, and ordered it dismantled. The utilities anticipated the demand, they just hadn't anticipated the stupidity of the State of New York.

Incidentally, I am former resident of the state, having lived in Buffalo, Syracuse, Utica, and Schenectady regions. I found that I had more government than I cared to pay for.

David Schoepf

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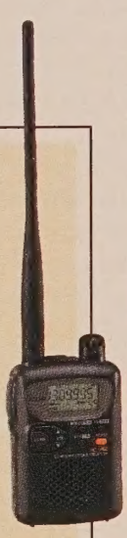

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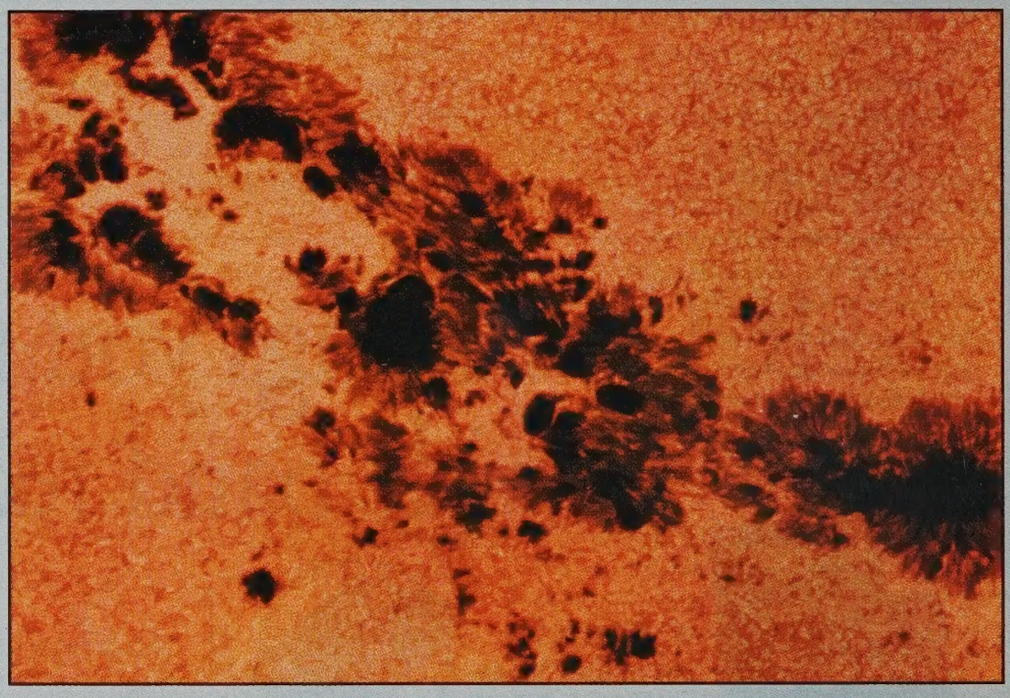
SOLAR CYCLE 23:
Solar Maximum Is Around The Corner

Solar Activity Increases, And News About A New Statistical Model

Courtesy Of Marshall Space Flight Center, Space Sciences Laboratory

If you think of the sun as a large, featureless, unchanging ball of light, think again. Our Sun's seasons or cycles of activity (and relative inactivity) come in 11-year cycles. And right now, we're approaching the maximum activity phase of the current solar cycle. Daily, the Sun has been exhibiting sunspots, flares, and coronal mass ejections.

As this issue of *Popular Communications* is prepared; remember the Sun's surface changes daily — a continuing series of minor to moderate geomagnetic storms have triggered aurora along the northern tier of the U.S. and may have even affected some public power systems operating at high northern latitudes. These events were caused by high-speed material streaming out from areas of the sun known as coronal holes. Space weather forecasters expected moderate levels of aurorae, shortwave radio disruptions, and power grid fluctuations at high latitudes for several days. Huge, beautiful prominences, like the one photographed by the NASA — European Space Agency Solar Heliospheric Observatory (SOHO) space-based observatory, become more common as we approach solar maximum.



This photo of the Sun shows several sunspots.

Taste Of Things To Come

Sunspots are relatively cool areas on the sun that appear as dark blotches. Scientists count the number of sunspots to measure the magnitude of a solar cycle, and to determine how long each cycle lasts. If they were able to predict sunspot activity, not only would we know ahead of time what the Sun will do, but we might gain a better understanding of how the Sun operates.

Dr. David Hathaway, along with Robert Wilson and Ed Reichmann, all of NASA's Marshall Space Flight Center, looked at many different ways scientists predict sunspot activity. They tested each statistical method to see which worked best, then combined the top two methods to develop an even better prediction method of their own.

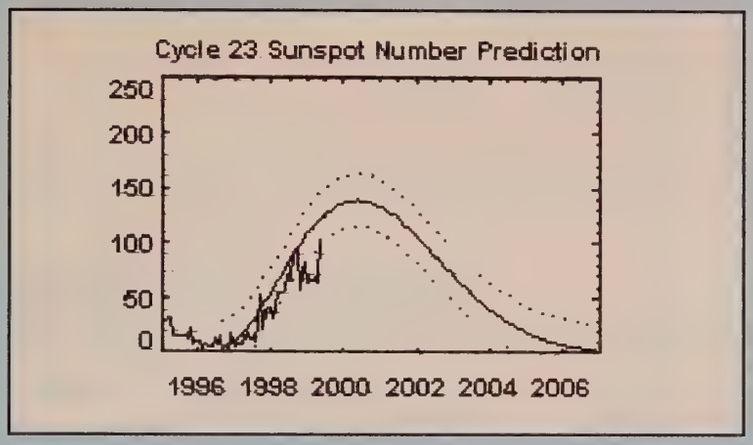
"There are many different ways of predicting the sunspot cycle," says Hathaway, "but until now there has never been a systemic study to determine whether one method works better than another. After examining various methods, we found that some of the techniques currently used and touted are basically useless."

By looking at more than 15 methods, the scientists found that 8 or 9 were better than average at predicting solar maxima — when the sun is the most active. The two best methods essentially used the same information — disturbances in the Earth's magnetic field.

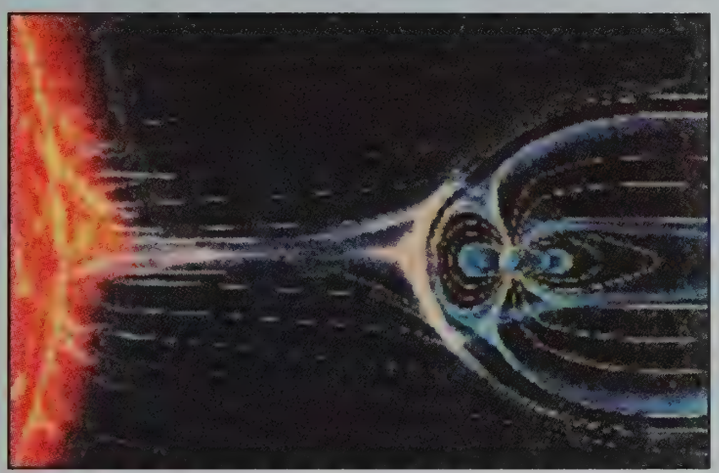
Joan Feynman from NASA's Jet Propulsion Laboratory developed one of the top two methods; the Australian astronomer Richard Thompson developed the other. Although each scientist took a different approach to the data and reported different results, they both looked at how the Earth's magnetic field *shook* during the previous solar cycle to predict the size of the next one.

Scientists don't know why previous solar activity is connected to the next active period, or why the Earth's reaction to that activity helps in solar cycle prediction. But the connection allows scientists to estimate what the next solar season will bring.

The new statistical model developed by Hathaway's team uses both Feynman's and Thompson's methods and integrates them with a curve-fitting technique. The "precursor" methods they used try to determine the total number of sunspots that will appear before the season actually begins.



The current Solar Cycle — No. 23 — is expected to peak in mid-2000. By combining data about geomagnetic activity during the previous solar cycle with sunspot counts for the current cycle, David Hathaway and collaborators are able to predict when the next sunspot maximum will occur. The dotted lines above and below the solid curved line indicate the prediction curve's range of error.



Solar activity affects the Earth's magnetic field.

For the current solar cycle, the team predicted an average sunspot maximum of 154, with an uncertainty of plus or minus 20. This prediction has a narrower range of error than a previous, widely-accepted prediction, which placed the sunspot maximum at 160 with an uncertainty of 30. The solar cycle lasts for about 11 years. The current cycle will peak sometime in mid-2000.

"We are entering a period where the Sun will be very active," says Hathaway. "From now until mid 2001, we'll see daily sunspot numbers between 100 and 300, with an average around 154." After that, solar activity will begin a slow descent into solar minimum. So far, the Sun seems to be following the curve picked by the scientists. "Monthly values are actually jumping all over the place," says Hathaway. "You have to remember the curve is only an *average* of what is really going on."

Recently, for example, the Sun had a sunspot number above 300 in one day — far more than the 154 average. But for the previous five months, there were fewer sunspots than expected. The average number of sunspots met in the middle to follow the curve picked by Hathaway's team.

As good as this new method is, "physical models to predict sunspot activity several years in advance are not available," says Hathaway. "We don't understand well enough why the Sun does this to be able to predict like a meteorologist does."

Hathaway, along with most other solar astronomers, believes the Sun's magnetic field is the key to understanding the solar cycle. Sunspots are formed when the magnetic field lines just below the Sun's surface become twisted and poke through the solar photosphere. The photosphere — or "ball of light" — is the familiar, visible surface of the Sun.

The Sun is actually a ball of gas, so it does not rotate rigidly like solid planets and moons do. Instead, the Sun's equatorial regions rotate *faster* than the polar regions. Because of this "jet stream" near the equator, the magnetic fields become wrapped around the Sun. "The magnetic field is a lot like a rubber band," says Hathaway. "Fluid flows within the Sun called 'dynamos' stretch, twist, and fold the band, wrapping it around the Sun many times over 11 years. When the magnetic field loops into the Sun's convective zone, it rapidly rises to the surface. As it rises, it twists a little bit. This provides a change in field direction that helps to reverse the poles."

The Sun's magnetic poles reverse at solar maxima. Starting at the equator, a slow flow at the surface drags the magnetic field toward the poles. Conversely, sunspots first appear in the mid-latitudes and then congregate toward the equator later in the solar cycle. The extra ultraviolet (UV) and X-ray radiation created by the magnetic field around sunspots causes the Earth's atmosphere to heat up and expand. This creates added drag in the area where satellites and the Space Shuttle orbit. This drag could actually slowly pull such spacecraft out of orbit earlier than expected.

And although the massive sunspots are cooler areas on the solar surface, the Sun is actually hotter when sunspots appear and cooler when they are absent. Scientists believe that a long period of solar inactivity may correspond with colder temperatures on Earth.

Now, as sunspot numbers mount, coronal mass ejections and solar wind disturbances will trigger more and more geomagnetic storms. A common misconception about the solar maximum is that it is a brief event that happens on a particular day, as reported in one recent news story that warned of a solar catastrophe on January 1, 2000. Not so, says Hathaway. "The sunspot maximum is usually a broad peak. There is a two or three-year period when activity is quite high. I wouldn't say that we're really in the solar maximum yet. I expect solar activity to be highest in 2000 and 2001, and then in 2002, it may decline back to where we are now . . ."

For radio enthusiasts, when the sunspot numbers are *high* and the ionosphere is highly charged, you should look to the higher shortwave frequencies for DX, as these "shorter" wavelengths reflect better at this time. As sunspot numbers *decline*, lower frequencies, for example in the 60- and 90-meter band are less affected by the decline in solar activity. Generally when the sunspot count is high and the ionosphere becomes supercharged, worldwide shortwave communications are very good; when the count is lower, conditions are generally poor.

Solar flares, on the other hand, are gigantic outbursts of electromagnetic radiation across a major portion of the spectrum spewing from the Sun's surface. While they can occur anytime, they usually occur near sunspots during times when the sunspot count is high. Their affect on shortwave communications can be catastrophic. ■

For more information about how radio communications are affected by the ionosphere, and the 11-year solar cycle check out NASA on the Web at <http://www.science.nasa.gov>. There, you'll find links to many solar-oriented Websites, and to some fantastic real-time photos of the Sun. And be sure to read, *The NEW Shortwave Propagation Handbook* from *CQ Communications, Inc.* Call 800-853-9797 ($19.95 plus shipping), and be sure to check WWV on 5, 10, 15, or 20 MHz at 18 minutes past the hour.

Pop'Comm Meets The Enforcer

The Message Is Clear: Operate Within The Law Or Learn The Hard Way

By Harold Ort, N2RLL, Editor

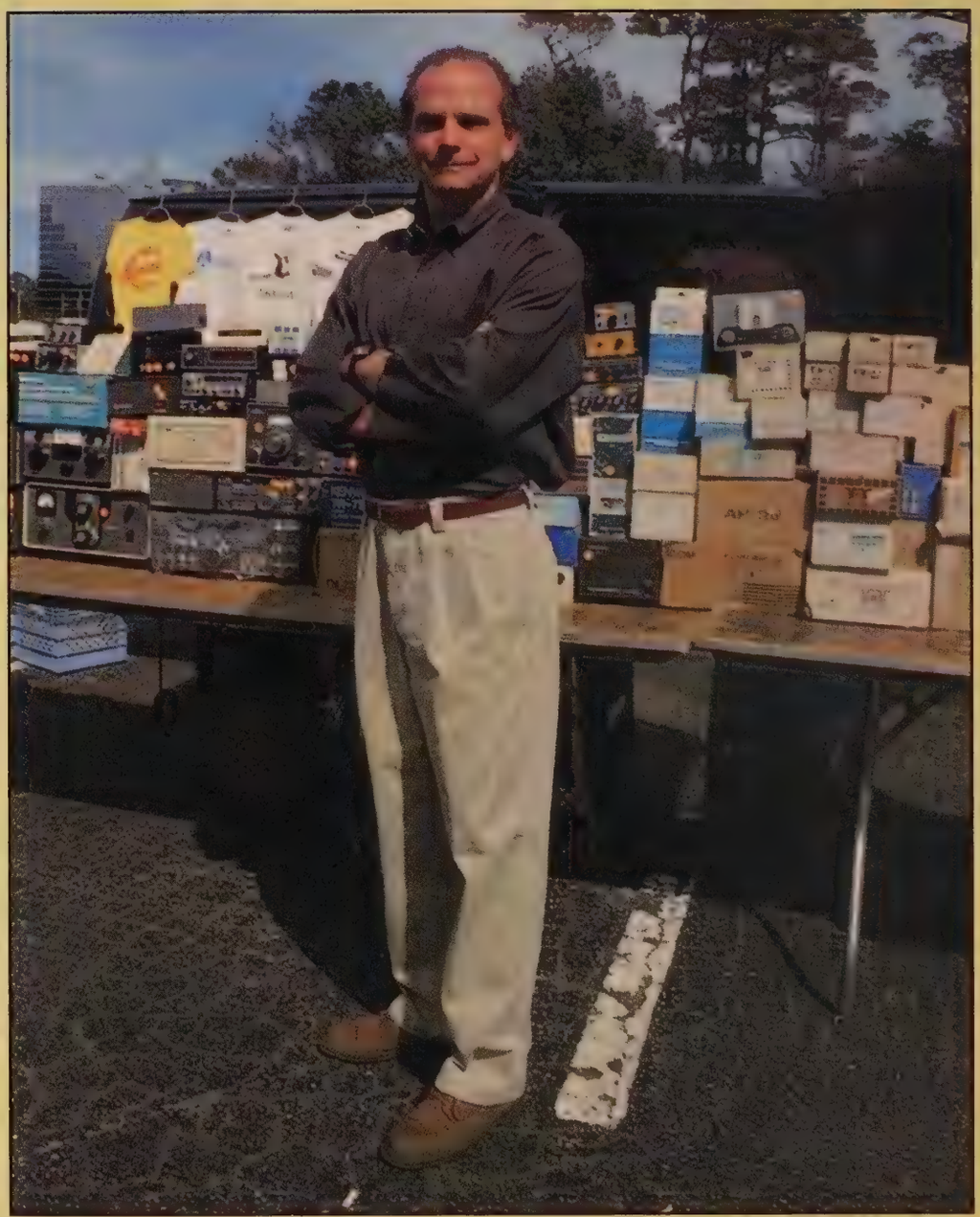
It's two hours before dawn in Arizona, when the lights go on revealing a new top-of-the-line amateur transceiver and linear amp. A large, floor-to-ceiling in-wall bookshelf is home to years of magazines and books; the ARRL Operating Manual and several how-to antenna books are among the most prominent.

The operator, a middle-aged sales representative for a local newspaper, gets comfortable in the swivel chair, flicks on the rig and linear, and comes up on 14.313 with nearly 1.5 kW. Before long, he's joined by several other "personalities" and they carry on with language you might expect from drill sergeants at a paramilitary bootcamp. The discussion goes on for a couple of hours; no call letters are heard from most participants, and the conversation ranges from an exchange of racial jokes to long tirades about off-color subjects better left to the pool room.

The traffic and weather report finally alerts the operator that the real world beckons and he wishes his fellow operators a good day. He quietly closes the door, leaving behind his well-appointed shack, adorned with QSLs from all over the world, certificates — and his Extra Class ham license until the ritual-of-the-radio-damned is repeated the next day.

Maybe the problem operators are a reflection of society; those everyday pressures that drive some folks to behave as if they were the planet's sole inhabitants, or maybe it's because our hypothetical operator was radio-depraved as a child or someone cut his coax in the '60s. Perhaps. But in reality, there's no one to blame except the operator who knows the rules, yet despite the rulebook — and worse yet, as an affront to good operators — thumbs his nose at the rest of us.

Like it or not, bad, discourteous, and renegade radio operators are here to stay, regardless of how much the FCC flexes its muscle. The good news that's getting rave reviews in the amateur community — as evidenced by standing-room-only at his seminars — is that the FCC's Special Counsel for Amateur Radio, Riley Hollingsworth, K4ZDH, takes the matter of amateur radio very seriously. Just ask the 20 folks who received warning letters during August, September, and October or the 10 amateurs whose licenses were canceled because of their failure to appear for a re-examination (under the rules, if you took the amateur exam from a volunteer examiner, the Commission can call you in for re-testing).



Riley Hollingsworth, Special Counsel for Amateur Radio in front of the G & G Electronics tables at the Virginia Beach Hamfest.

Other recent actions include:

- Called in 13 amateurs for re-testing.
- Inquired about apparent club callsign abuse in 10 cases.

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• Issued modifications of ham licenses in five cases to suspend or restrict amateur operation.

• Opened inquiries into four amateur exam sessions.

• Issued three letters under Section 308(b) of the Communications Act of 1934, as amended, which gives the FCC authority to ask questions and gather information regarding the operation of any radio station.

• Notified two licensees that the FCC intends to designate their license for revocation hearing.

Do The Crime, Do The Time

Until very recently, the FCC had faced severe budget and personnel cutbacks and with the explosion of commercial services — pagers and cellular phones — the Commission, Hollingsworth, an amateur operator for 39 years, says, " . . . had to focus on the commercial areas. In a matter of a very few years, it grew to a multi-billion dollar-a-year industry with little foreign competition — it was nobody's deliberate intention to let amateur radio go, we were overtaken by events with budget cutbacks . . . but now there's a renewed interest in enforcement, not just of amateur bands, but CB as well," he emphasized.

Case in point: In October 1998, the ARRL sent a letter to the FCC complaining about their inaction about a case in New York, which happened to come in after the FCC got a new Chairman, William Kennard and Bureau Chief, Richard Lee. One of their main agendas was to enhance FCC enforcement and regain some respect for FCC enforcement. Hollingsworth says, "I know that Chairman Kennard wants the FCC to have the same respect as the Securities and Exchange Commission or the Federal Trade Commission, so the letter came in at the right time." It was, ironically, this catalyst that got enforcement started again — an area that had been neglected for a decade.

Within two weeks, he had the enforcement part of amateur radio transferred to CIB along with the field personnel. "We've had wonderful cooperation from all the licensees and lots and lots of comments and some well-founded complaints . . . it just seemed to fall into place," he said, continuing, "we've found that amateurs are into many segments of communications; paging, cellular, and broadcasting, so it has raised the awareness across the board."

Complaint Central

"We'll take complaints any way we can get them," he emphasized, "but I prefer to get them by letter or E-mail . . . certainly, if anyone wants to call me, we'll go over what we need. We'll take them from anybody and work on the problem," Hollingsworth said. Many complaints are about malicious interference, but he noted that he's glad to see these operational problems tapering off.

Offering 3950 kHz as an example with the intentional jamming and music playing, I asked if the FCC was serious about tracking these folks down. Hollingsworth commented, "On 3950, when it comes to the Liberty Net, both sides are at fault, the Net has been at fault and the jammers are certainly at fault. We had a recent case where an operator was cited for jamming and we rescinded that — certainly that's not an indication that we don't care about 3950, because 3950 has got to be straightened out." He continued, "We have warned operators that no matter what they're jamming, we're not going to tolerate jamming. It *can't* be tolerated because it degrades the whole band . . . of course the Liberty Net are partly at fault too because I think in their own minds they think they own the frequency. We can't tolerate that. That net used to be a very outstanding net — they used to talk about technical issues and radio, some of the net members tell me, but I think they've dropped to the level of those that were jamming, except for the fact that the jammers kept jamming thinking we wouldn't do anything, but we are . . . we've watched 3950 as a trouble spot and we won't tolerate anybody doing any jamming no matter whether it's against the Liberty Net or anyone."

Let's Save The Spectrum

Hollingsworth said it seems like 80 percent of their complaints are concerned with 14313 and 3950, so they've got a lot of work ahead of them. He said, "There's an old expression in the South that you can lose the whole farm fighting for the outhouse — I'm trying to tell these people, let's forget about the First Amendment stuff on 3950 and what net you want to have, let's save this whole spectrum first and make sure we don't shoot ourselves in the foot, because if everybody starts fighting, we're going to lose the whole thing. We can't forget 97.1, the basis and purpose of amateur radio. It's a hobby and a service, it's not one *or* the other . . . "

I asked Hollingsworth about the general public's perceptions about the goings-on in the amateur radio community that give a black eye to the radio hobby, whatever service — at large. He emphatically noted, "If they start to lis-

W. Riley Hollingsworth — Special Counsel For Amateur Radio

With 39 years behind him in amateur radio, Riley Hollingsworth, K4ZDH, joined the Enforcement Program of the Compliance and Information Bureau (formerly the FCC's Field Operations Bureau) as Legal Advisor for Enforcement in January 1998. He was placed in charge of coordinating enforcement in the Amateur Service after that program was transferred to the Compliance and Information Bureau in October 1998.

After receiving a Master's Degree in 1970 in Political Science from the University of South Carolina, he finished Wake Forest University Law School, where he was President of the Student Bar and member of the Law Review.

Prior to his joining the Compliance and Information Bureau, Hollingsworth was an enforcement trial attorney, and later Deputy Chief of Licensing and Assistant Bureau Chief of the Wireless Telecommunications Bureau.

In 1987, he managed the FCC 800 MHz Lottery Task Force in which new 800 MHz spectrum was assigned in 13 cities. He organized the FCC's program in which under-utilized radio channels were recovered for reassignment in major cities. This program withstood three challenges in the U.S. Court of Appeals.

He was awarded Vice President Gore's "Hammer Award" for Reinventing Government, in 1994. He participated as a Member of the Delegation from the U.S. State Department to Bucharest, Romania, in 1992 to discuss radio licensing in the United States and opening foreign markets to American manufacturers. Riley also acted as Co-Chairman for the FCC PCS Broadband and Narrowband Licensing Task Force in 1994.

Mr. Hollingsworth is currently a member of the Quarter Century Wireless Association and the Radio Club of America.

ten around the ham bands, especially to some of the nets, they'll see that it's a wonderful hobby . . . you can work the nets, space shuttle and it's not only a good public service, but it's fun. But of course it, like anything else — and maybe manners have declined a little bit — is also a cross-section of American society, but these are pendulums, and we can't take that part out of either service." He continued, saying that amateur radio "is going to represent life in general, but if people listen, they're going to see some great changes in both [amateur and CB] services."

TVs And CD Players

Hollingsworth said the Commission frequently gets complaints from neighbors who " . . . may have home entertainment equipment that isn't very good and they're getting interference from legal CB operators." Asked if the interference from *legal* CBers coming through home entertainment equipment is because the neighbor's entertainment equipment — stereos, TVs, CD players — isn't up to par, he said, "There's a lot of that . . . the standards in the manufacturing process are voluntary, and that's part of the problem. I get a lot of complaints about CB operators and I know from the nature of the complaint that they're running overpower. I try to stay out of the CB complaints, but focus on amateur, but the majority of complaints do relate to overpower and home entertainment equipment that might be deficient, but probably wouldn't be bothered enough for them to complain to us were it not for the overpowered operator." Raising his voice over the din of the hamfest crowd, he added, "I have some strong feelings on the CB service in this regard — a lot of people ridicule the CB service, and I hate to see that because it's a valuable service, and as various people have pointed out, whether it's the amateur radio or CB spectrum, it's free to us and has a lot of potential. Nobody in their right mind would advocate paving over New York's Central Park or making a vast parking lot out of it, but if Central Park became unusable as a park — became crime-ridden, where people ridiculed it and mainly neglected it, you would seek commercial interests suggesting a better economic use for the park — so the CB service, having these big shootouts with these big linears is shooting themselves in the foot. We can't forget that Central Park analogy, because if it becomes totally unusable or totally the subject of ridicule, commercial interests are going to bid for it."

Is that around the corner, in the near future, I asked? "I don't want to pass judgement on it now because we've only been back in this enforcement program for a year, and my complaints about CB operators seem to be tapering off a little bit," Hollingsworth said, adding, " . . . there are a lot of serious CB operators out there, using it for what it's supposed to be — it's a citizen's radio service, it's free, and has a wonderful potential for people that aren't interested in ham radio or don't want to take the test or whatever, so I don't see it happening if people will realize that people can't take that spectrum for granted and realize that the Commission is back into enforcing it."

Are You Part Of The Problem, Or Solution?

The ham community, on the other hand, has been *pleading* for enforcement for nearly 10 years. Hollingsworth, himself an active ham (K4ZDH) says, "I think we're doing it right and trying to get everybody to realize the decision they have to make: They've got to decide if they're going to be part of the problem or part of the solution." Everyone knows that the FCC could have come in like gangbusters. He says, "We could have come in right off the bat and designated 20 or 30 licenses for revocation in the amateur service. We didn't do it that way, we tried to take a more clinical approach because a lot of these people were out there operating the way they were or jamming because they saw the Commission as missing in action, and in their mind they weren't going to see the bands lost."

In some cases, a lot of long-time operators, fed up with the on-air antics, took charge. Hollingsworth leaned forward as he made the point, "Somebody that wasn't operating the way another operator thought they were supposed to be got jammed or they got on them about it, and if somebody was jamming, they would jam the jammer and it got very crazy; frankly, if we had been doing our job, a lot of these long-time operators wouldn't have felt compelled to go do this. I ask those operators that think we're doing the wrong thing or too much, [enforcement] to just wait and give us more time, because I think we'll end up with a better service." Hollingsworth said he has received 5,000–6,000 thank-you messages for the Commission getting back into the service — less than a half-dozen say they should stay out of it.

In the case of CB radio, I emphasized to Hollingsworth the many years CBers have been helping our country during community events and both natural and manmade disasters. Acknowledging their service he added, "CB is a wonderful entry into amateur radio— it's a person's first exposure without a great laying out of cash and without having to take a test, but if the public hears bad things on the CB bands, they'll stay away. CB has let itself get into very bad shape, but it doesn't have to stay that way." He continued, "There are a lot of good, conscientious CBers that do a lot of good work out there. I would just say one thing: CBers should also think if they're going to be part of the problem or solution, because the number of HF transmitters is generally declining, but demand for HF spectrum is on the increase, particularly from shortwave broadcasters. We just can't take it for granted . . . you've got to remember the Central Park analogy."

Regarding enforcement he said, "We're going to continue on the same course with amateur enforcement, but I'm hoping we'll be looking more closely at the 10-meter incursion and about illegal equipment."

Keeping It A Proud Service

"Just last week, I was listening to the way a hurricane emergency traffic net was handled — and I'm sure there were CBers too helping out — and I received *one* complaint that entire week about malicious interference on ham bands that were handling traffic, and it was an inadvertent interference. Just listening around the bands showed that me that it was something to be proud of," Hollingsworth said. He added, "In Florida, we had a Tampa newspaper reporter with earphones listening to the communications . . . I would have been proud to have anybody to hear it — there was a good bit of traffic being passed, and when there wasn't, the operators were having good QSOs and conversations, saying that if anyone needed the frequency to let them know. This is the way it's supposed to work. You'll never see that in the papers . . . it doesn't get reported."

Of course a lot of CB operators contributed too. Hollingsworth added, "We need BOTH services — and both services need to realize they can't take the spec-

trum for granted. I don't like to see CBers ridiculed, but I'd also like to see CBers get more sensitive and operate so they don't get ridiculed. It's a long service with a lot of history and lots of good potential."

The CB Scene

"CB operators," Hollingsworth emphasized, "sell themselves short because they think people are down on them and they don't have a good reputation, but they can turn that around . . . it's a very valuable service." He observed that many radio enthusiasts — and technically-oriented people in general — don't honk their own horn about their services and hobby. He said, "They think people ought to know this or that, but they don't — they need to be told."

And how do you talk about CB without talking about Channel 9? After being questioned about the Spanish-speaking stations all but rendering Channel 9 useless, Hollingsworth said, "We're working on that problem . . . I get an incredible number of complaints about it on 11 meters and the amateur bands too — the Spanish-speaking operators with very high power. It's not only Puerto Rico, but comes from other areas, too."

The Commission is also looking into the incursion into 10 meters by CB operators, he says, " . . . by the foreign operators that are degrading the CB and amateur services . . . it's an intermingled problem." Then there's the problem of illegal equipment and amplifiers that's hurting both services. He added, "I know there's a problem with exactly what you're talking about and we're looking at it, trying to determine the sources. We get very good cooperation from foreign governments if it happens to be from another country."

When asked if the Commission differentiates between a freebander, operating on an unused frequency and a regular CBer running afoul of the law, Hollingsworth said, "There's a misconception here . . . it isn't freeband because there *are* allocations there; government and commercial . . . some of it might be guard bands where there should be *no communications*, so we don't distinguish, so if you're unlicensed on a frequency, it doesn't matter if that happens to be what the operator considers the freeband. There *are* important allocations there."

If you drive around in a neighborhood you haven't been in for a couple of months, you're going to see another cellular tower going up. The growth rate is phenomenal. Hollingsworth smiled broadly, clearly proud of the amateur service, saying, "You and I know that when you have a hurricane or any multi-jurisdictional disaster, cellular is often worthless and the first thing to go down, and the remaining ones are so jammed up you can't get access to them." He continued, "And the way public safety frequencies are allocated . . . so very often when there's a multi-jurisdictional disaster they can't talk to each other, so the first few hours or day or two of a disaster, it's mass confusion, BUT the amateur frequencies are shared, so very often it's the amateur service that helps them get things sorted out — the commercial services depend on too many parts of the infrastructure to operate."

Pinching The Pirates

Pirate broadcasters are also feeling the heat. The Assistant Bureau Chief Enforcement, Mr. John Winston says 500 pirates were shut down last year, and it appears that more are in the Commission's crosshairs. Winston told me, " . . . we'll take swift and vigorous action to ensure they [pirates] no longer exist." He continued, "Our first position is going to be that of education; when notified they're in violation of the law they'll have every opportunity to comply — that's the education portion — but, once they fail to adhere to that warning, punitive measures will be quick and certain."

Getting The Word Out

Hollingsworth, before heading off to another hamfest engagement, made the point that hams need to advertise themselves more to the general public, saying, "Any service that doesn't have an influx of young operators is going to have problems; there's so much to compete for their attention these days, but I challenge all of you — ham or CBer— to bring one new person into the service and show all the good things about it . . . I can't think of another hobby that's fun and such a valu-

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KDJI: Radio & The Old West

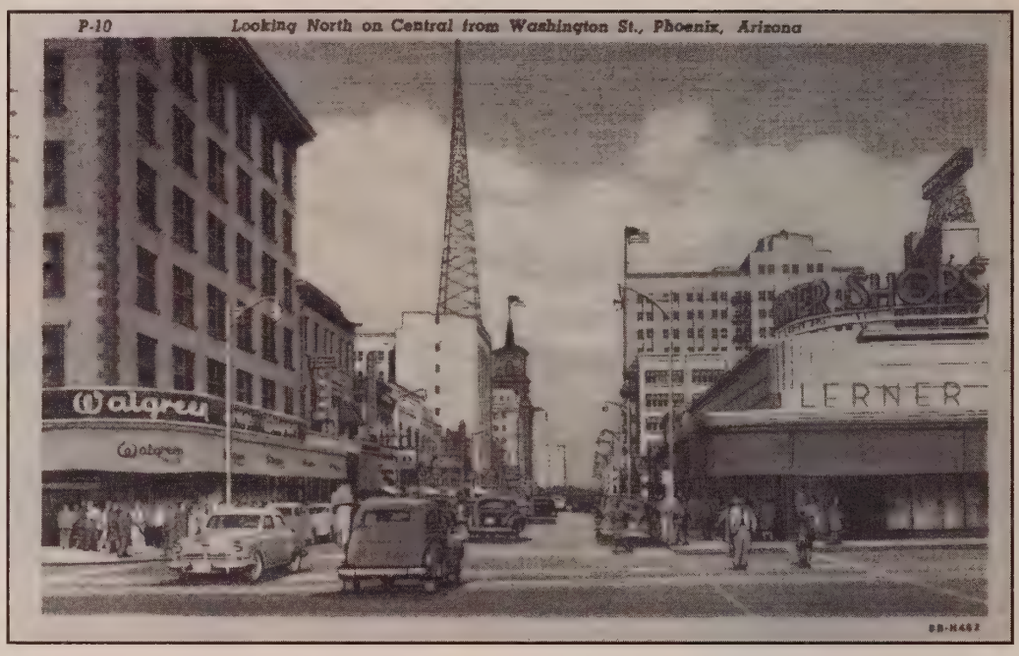
When A Flood Washed It Away, KDJI Borrowed A 100-Watt Rig!

by Alice Brannigan

In the early 1880s, it was frontiersmen who were the cowboys, cattle ranchers, and railroaders who made Holbrook, Arizona (Territory), into a busy cow town. Holbrook is in the northeastern part of Arizona, along the banks of the Little Colorado River. An untamed place in its first years, it wasn't until 1887 that Commodore Perry Owens, the local sheriff, brought law to Holbrook. Owens had a famous shootout with four cattle rustlers at the Blevins House. That historic house still stands, as does the *Bucket of Blood Saloon*, where many a cowboy had refreshed himself. In 1898, they built the ornate Navajo County courthouse as the centerpiece of Holbrook. In 1912, Arizona became admitted to the Union as our 48th state.

In the early 1920s, radio broadcasting came to major population areas, and through the 1920s to 1940s, new stations kept popping up in even-smaller localities. Population is the name of the game for commercial broadcasters. By the end of 1922 (broadcasting's first full year), three stations were operating in Phoenix, Arizona's largest city. These were KFAD (later became KTAR), KFBC (became KOY), and KDYW.

Contrast Phoenix with the mining camp town of Jerome, Arizona. Founded the same year as Holbrook, Jerome was built on the side of a rich mountain of copper. By the mid-1920s, Jerome had grown into a prosperous boomtown with banks, theatres, stores, churches, schools, a jail, and a population of 15,000. In 1930, they put up a 100-watt radio station, KCRJ. Unfortunately, too much blasting had caused Jerome's mine tunnels to start collapsing. To make matters worse, by 1940 the ore began to play out. Jerome's population sharply declined, and in 1943, KCRJ went dark because of too few listeners and sponsors. In 1953, the mine was completely shut down. Jerome was abandoned and became a genuine ghost town. Today, Jerome's few residents sell souvenirs to tourists who come to watch its hundreds of buildings gracefully slipping down the mountainside.



Radio came to Phoenix, Arizona's largest city in 1922 near the start of broadcasting. This postcard shows the KTAR antenna tower in downtown Phoenix about 1950. By then, radio still had not arrived in small Holbrook, Arizona.

Broadcasting in Arizona came to Jerome and had been gone for more than 10 years before it even showed up for the first time in Holbrook. Why? Despite being a county seat, as recently as the 1950s Holbrook's population still stood at only about 3,000 souls, a fact that didn't make it the ideal venue for opening a commercial radio station. Yet, in July of 1955, the FCC issued a permit to construct a 1- kW station to be operated on 1270 kHz.

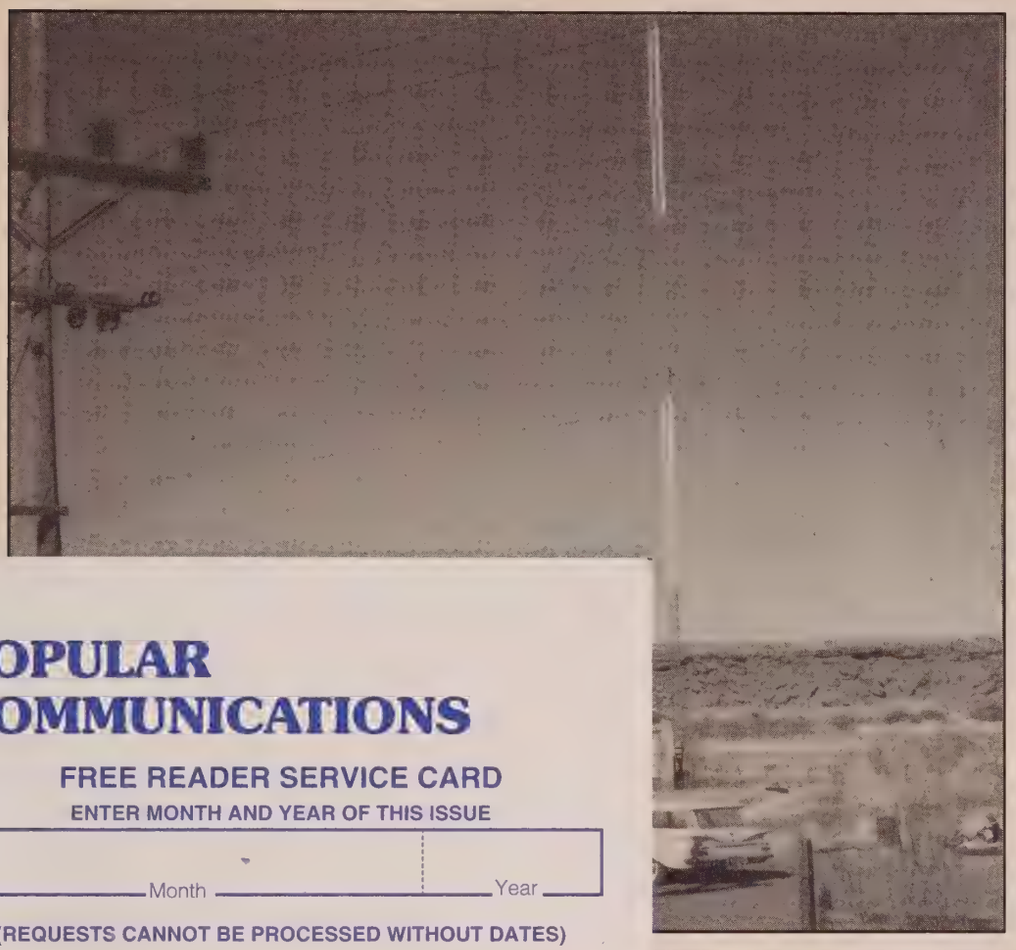
The new station was to be three-quarters owned by Donald E. Jacobs, operator of a local tourist curio shop. Irene Tabor, a local housewife, would own the remaining 25 percent. They estimated that it would cost about $25,400 to build the new station, plus $31,200 to operate it for the first year. They predicted $42,530 in advertising revenue during the first year.

The station's studios and offices were located at 1014 West Hopi Drive, Holbrook. This address was on historic (and now former) U.S. Route 66. The metal transmitter shed and single vertical radiator were at a site west of town known as Leroux Wash, adjacent to a marshy area. (In western areas of the U.S., a *wash* is a local term meaning the bed of a stream that has run dry.) The FCC assigned the call letters KDJI to this station, and it went on the air November 13, 1955.

As of February of 1957, Donald Jacobs had acquired Irene Tabor's share in KDJI for $3,011, giving him full ownership. This price could give you the impression that KDJI was having a difficult time becoming a commercial success. In fact, only two years after that, Jacobs also decided to get out of broadcasting. He sold KDJI to Harold J. Arnoldus for $33,050, which doesn't sound like Jacobs came out ahead on the transaction.

A Penny Saved . . .

Arnoldus promptly closed down the studios and offices on West Hopi Drive. A single house trailer was placed at the



dio and office in 1960. (Photo by

Manager was Walter V. Lowe. Within short order, KDJI's network affiliations were dropped and the station became independent. The new owners decided to boost the station's potential audience by upping its power from 1 kW to 5 kW. This would put its signal out over just about all of Navajo County (population at that time was about 39,000), plus parts of the adjacent counties. This change was approved by the FCC in June of 1967. At that time, the studio and transmitter site at Leroux Wash became known as North Broadcast Lane. This was adjacent to new Interstate Highway I-40, which passed on the southern edge of the property.

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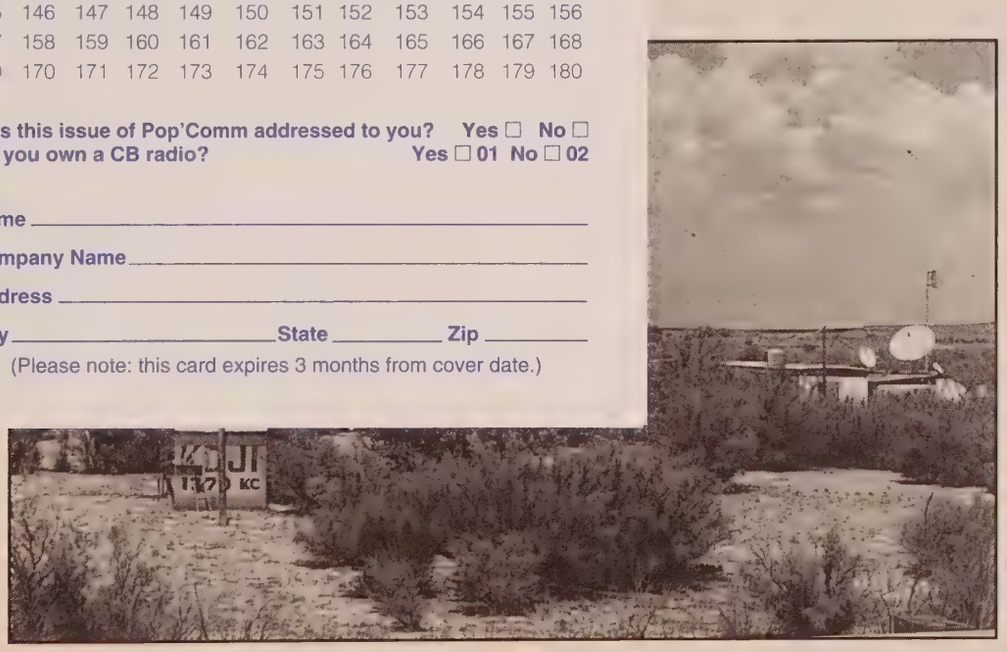

After the 1993 flood, KDJI replaced the trailer with a more formidable structure (seen off to the right rear). (Photo by Jan D. Lowry, Castaic, Calif.)

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KDJI: Radio & The Old West

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by Alice Brannigan

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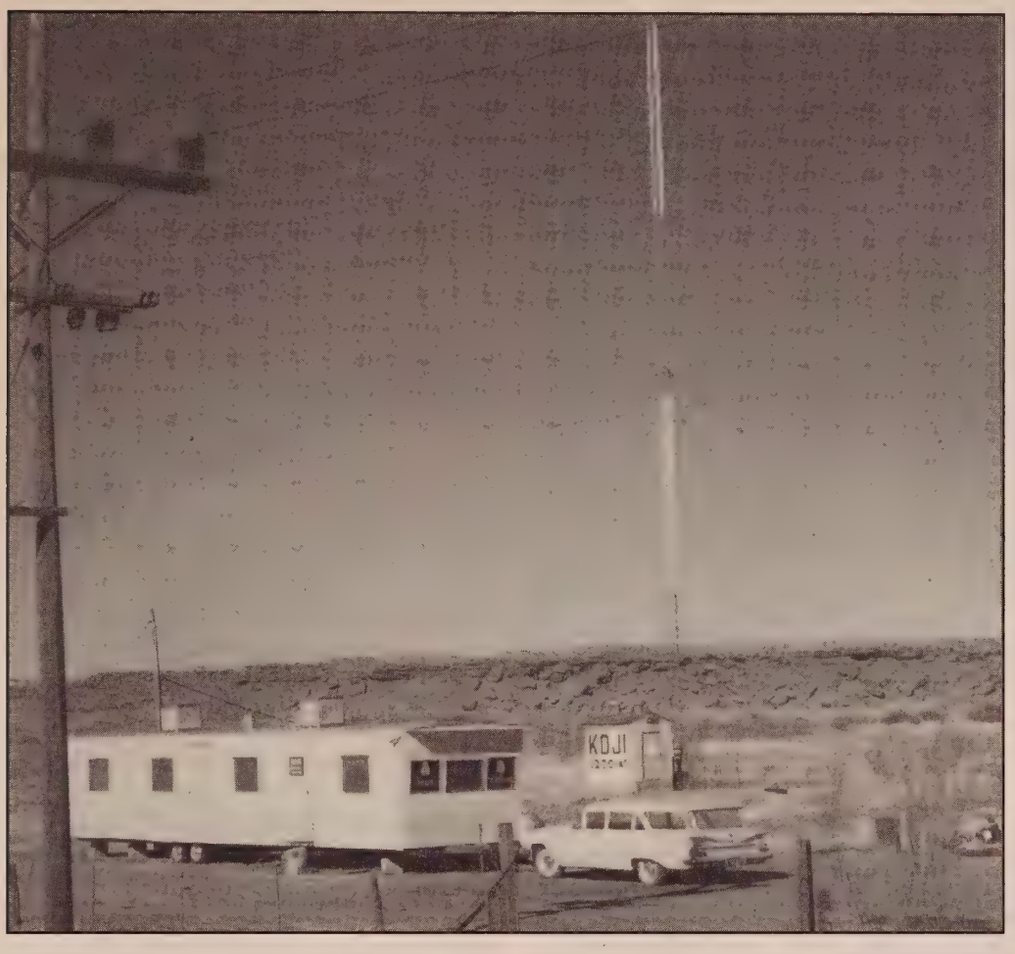

KDJI's transmitter shed and the trailer that served as its studio and office in 1960. (Photo by Jan D. Lowry, Castaic, Calif.)

Leroux Wash transmitter site in order to serve as KDJI's new studios and offices. The station was operating from sunrise to sunset, running local disc jockey music. Each week, there were 2-1/2 hours of programming in the Navajo language. As of 1963, KDJI had become an ABC Radio Network affiliate, and also a member of the Arizona Broadcasting System. Arnoldus had built up the station to the point where he was able to sell it in 1965 for $90,000.

The new owner was the Navajo Broadcasting Company, Inc., Drew Shumway, President, and a part-owner KDJI. Another co-owner and the General Manager was Walter V. Lowe. Within short order, KDJI's network affiliations were dropped and the station became independent. The new owners decided to boost the station's potential audience by upping its power from 1 kW to 5 kW. This would put its signal out over just about all of Navajo County (population at that time was about 39,000), plus parts of the adjacent counties. This change was approved by the FCC in June of 1967. At that time, the studio and transmitter site at Leroux Wash became known as North Broadcast Lane. This was adjacent to new Interstate Highway I-40, which passed on the southern edge of the property.

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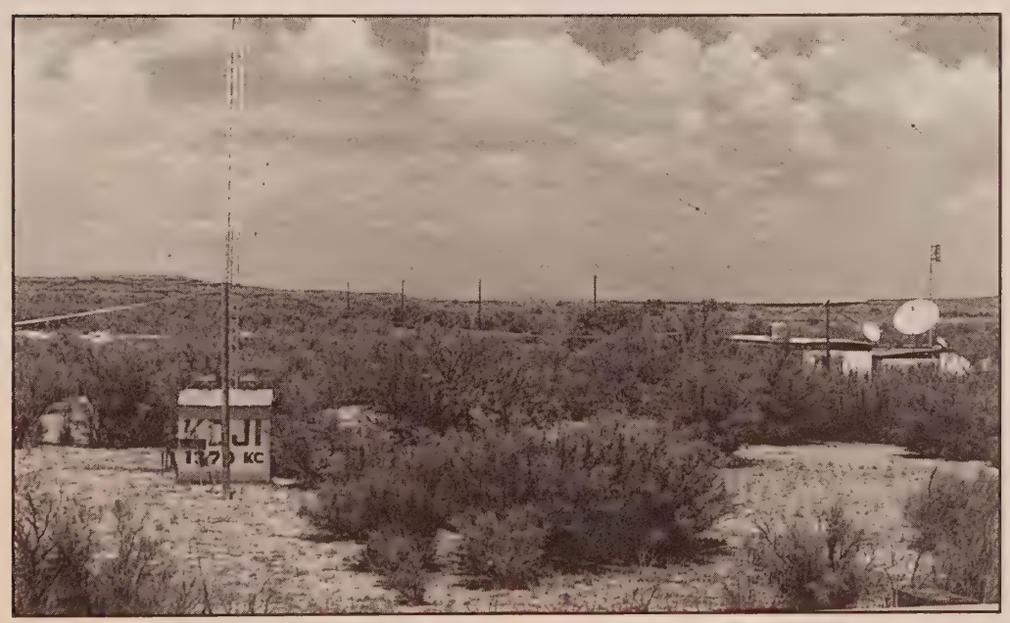

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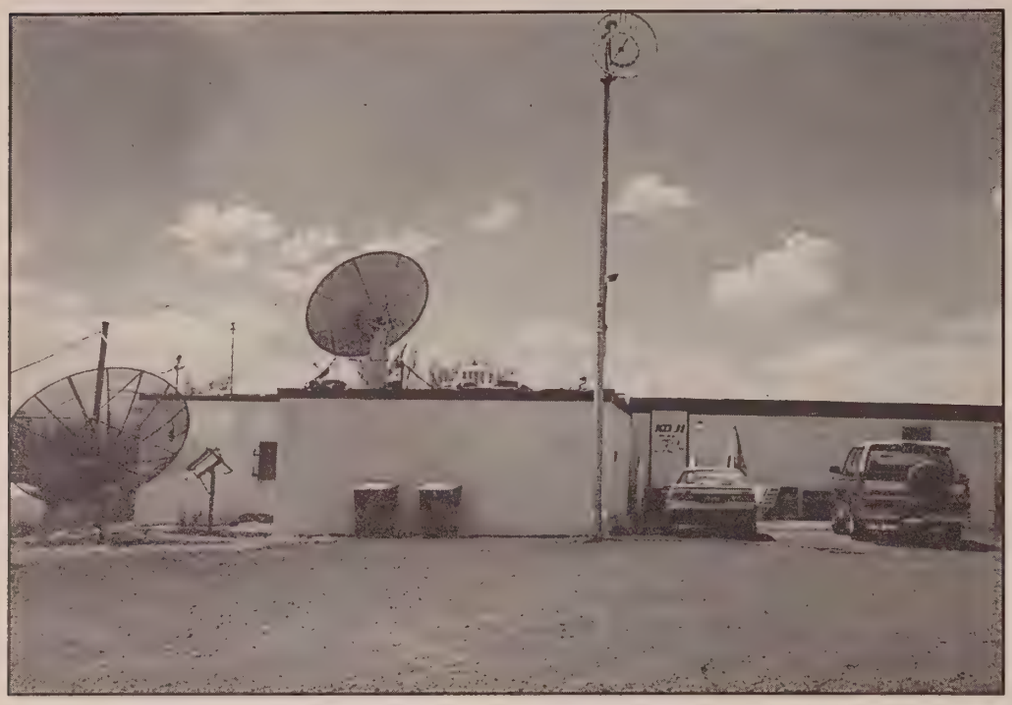


Close-up view of KDJI's studios and offices as they look today. (Photo by Jan D. Lowry, Castaic, Calif.)

Simple, but serving the purpose, KDJI's transmitter shed and tower still survive from the station's beginning in 1955. (Photo by Jan D. Lowry, Castaic, Calif.)

of Top-40 music. As of 1987, the Arizona Network affiliation ended. Also that year, Max K. Busby was promoted to President and General Manager. KDJI switched to an Adult Contemporary music format, but by 1988 had returned to Top 40. That year, Roy Roberts succeeded Mr. Busby as President and GM.

In 1989, the FCC authorized KDJI to operate during night hours using 130 watts. The station then extended its broadcasting day from 6 a.m. until midnight, running 5 kW during daylight hours. A year later, KDJI discontinued its ABC Information Network affiliation and joined the Mutual Broadcasting System. Also, it began airing SMN's satellite-delivered oldies music format.

In The Wash

On January 8, 1933, the low marshy area adjacent to KDJI's site overflowed, flooding the Leroux Wash, and all of the KDJI facilities along with it. The station suffered an $85,000 loss, and was off the air for 12 days. A borrowed 100 watt LPB transmitter was rushed to the site and KDJI was able to return to the air January 20. The former trailer studio/office had three feet of water inside and was replaced by a new studio/office located on higher ground, and mounted upon pillars. A new 5 kW transmitter was ordered and put on the air. After returning to the air, KDJI replaced SMN's oldies with the syndicated Jones Satellite Network oldies format. In 1995, the station began operating around the clock.

Presently, station KDJI operates on AM 1270 kHz with 5 kW by day and 130 watts at night from 250 North Broadcast Lane, Holbrook, Arizona. The population of Navajo County today has grown to about 100,000.

Special thanks to Broadcast Pro-File, 28243, Royal Road, Castaic, CA 91384-3028, for granting us permission to use excerpts from their lengthy report on KDJI. BP-F is a professional research service that (for a reasonable fee) can provide detailed historic reports for all American AM and FM broadcasters, past and present. A catalog of their rates and services is available from them for $1.

We look forward to input from our readers, and hope you will be with us again next month. Our postal address is Alice Brannigan, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. Our column's direct E-mail address is <Radioville@juno.com>. ■

the radio connection

A Look Behind The Dials

A Plethora Of Two-Tube Receivers, And An Eclectic Radio!

I've been remiss in handling some reader mail, so it's time for another special "Readers' Edition" of our column! I try to answer most reader mail in a timely fashion, but sometimes the best of plans go astray. I am sorry to say I can't afford everyone a personal reply to questions I receive in the mail; researching answers to questions I don't know can be rather time intensive. Some things I had planned for this column are still on the bench, so now is a good time to give the mail sack a thorough cleaning.

"Stuff" in-progress includes some crystals sets — hey, I even got a few of the coils wound — and other interesting projects! The American Bosch restoration will also continue, as space permits.

Readers In Need

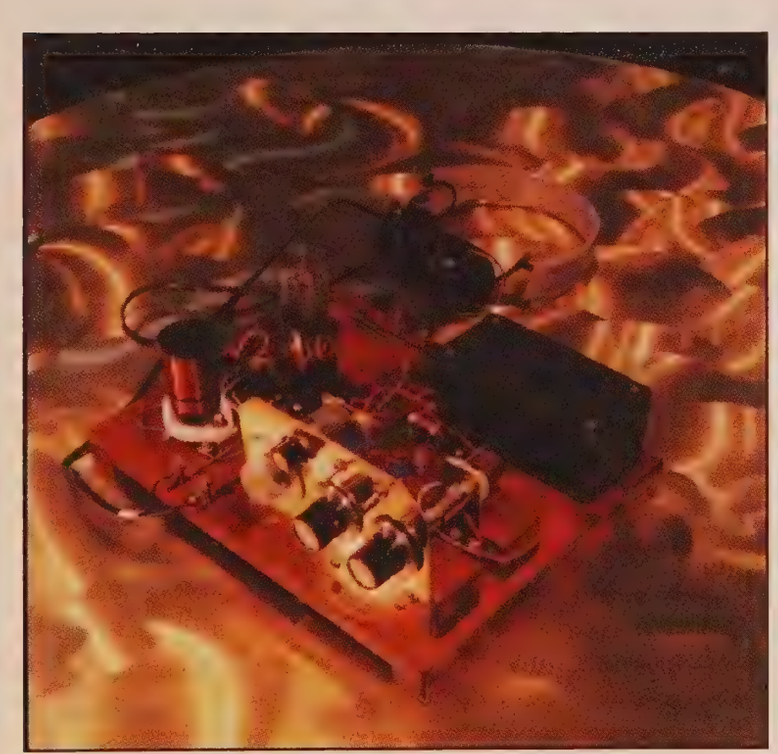
To the reader requesting information about which are the proper Panasonic capacitors to use for AC bypassing: my Internet mail program crashed, eating your message in the process. These are Panasonic ceramic disc capacitors type GL, and they are rated for line-bypass and across-the-line service. I suggest using 10,000pF (.01mF) capacitors; these are Digi-Key part number P4496-ND.

Another request for help is from reader Roger A. Bigger. Roger writes: "Peter, I am looking for a schematic, technical manual, or article dealing with a WWII R-100/URR vintage shortwave receiver. It was apparently intended for troop morale. I couldn't find it referenced in my copy of *CQ* Magazine's "Surplus Schematics Handbook." Do you know of any magazine articles dealing with this receiver?"

Can anyone help Roger find some information on his receiver? Drop us a line or E-mail <radioconnection@juno.com>; all replies will be forwarded to Roger.

Jim's "Eclectic Radio"

We have another winner! Congratulations to James Whiting, from Lake Shore, Minnesota, for being our third *Boy's First Receiver* winning entry. Here is what Jim has to say: "Dear Peter, What a refreshing idea. You wrote an article about how to build



Jim's eclectic radio. A sharp contrast in vintage meets "new," to produce this unique receiver.

Vintage Lafayette "tunable" FM and AM monitor receivers, predating crystal and programmable scanners, are displayed in Dick Barnes' especially neat shack. Imagine searching the bands for "new ones" using this technology. But wait, maybe that was part of the fun in those early monitoring days.

BY PETER J. BERTINI <RadioConnection@juno.com>

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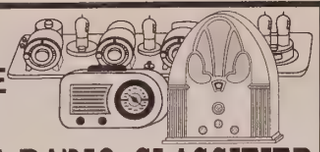

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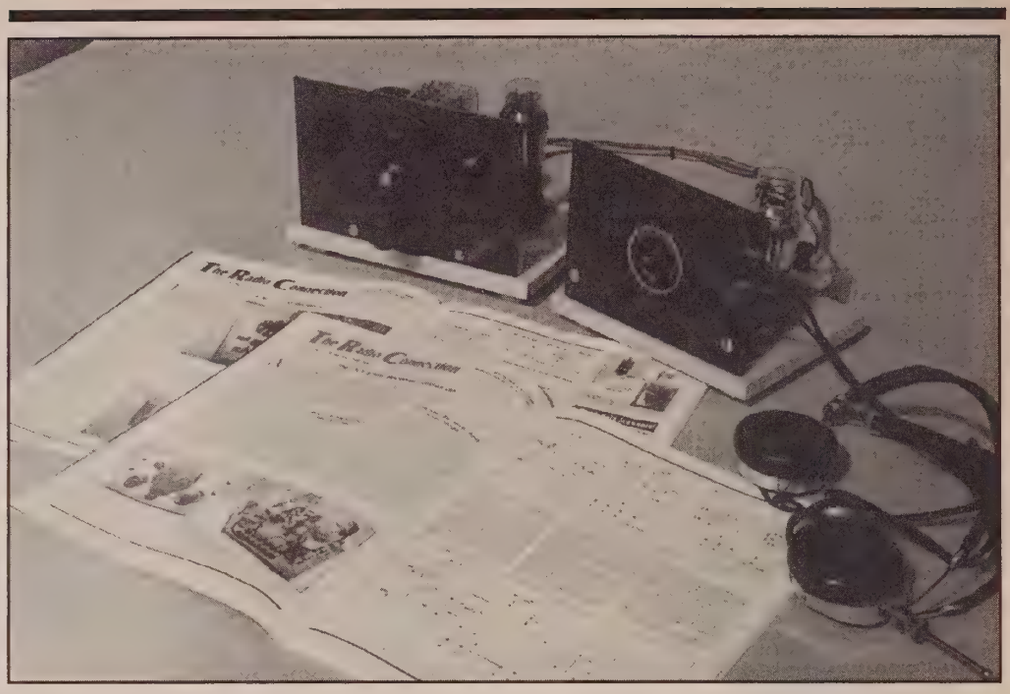
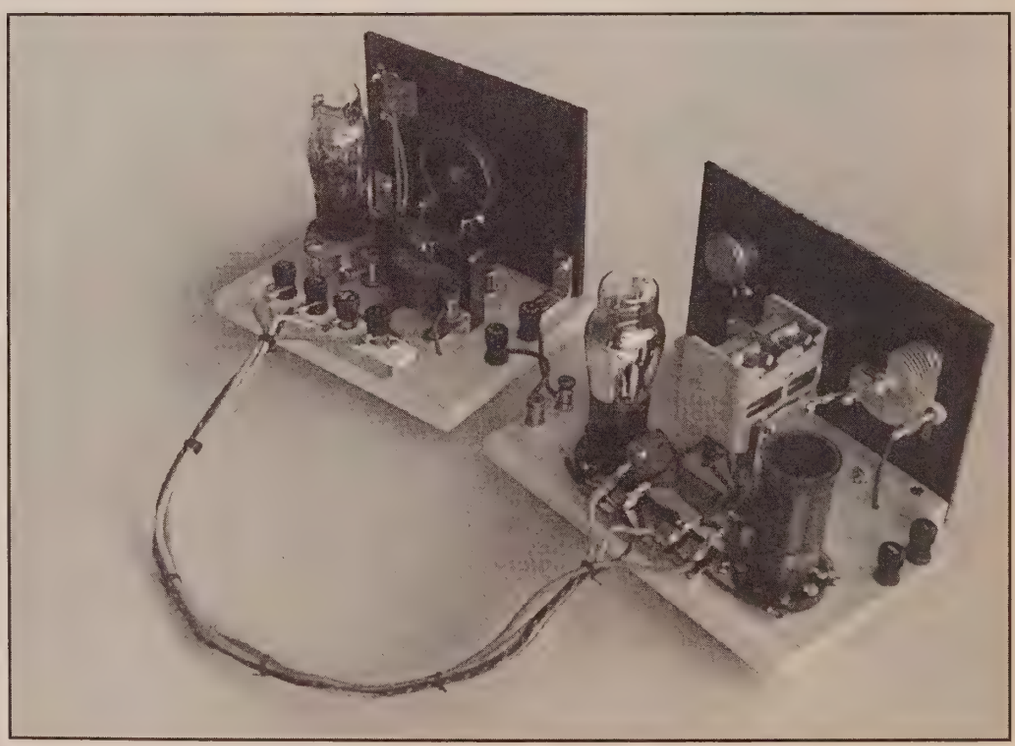


John Haught took our challenge and was the first reader to send in photos of the two-tube version of "The Boy's First Receiver." John shows us how patience and skill combine to produce a work of art.

a radio. Bravo! Thank goodness for someone brave enough to return to the basics. This is the stuff that was celebrated in the 'Golden Age' of radio. This is the stuff that excited adults and kids, that got us interested in electronics. Rather than lament the passing of radio's 'Golden Age,' we should return to the basics. The magic that is missing in an integrated circuit is alive and well in the vacuum tube."

"Finding the parts was a lot of the fun. Antique Electronic Supply, Surplus Sales of Nebraska, and Playthings of Past are adventures in catalog shopping. I decided to assemble an eclectic radio receiver, mixing some new components with the old. Since I enjoy woodworking as well as radio, the mahogany base got a few extra coats of varnish. The design is basically yours except that I included a bandspread for fine tuning and an air variable capacitor for the antenna trimmer.



The rear view of the receiver and companion amplifier. Note how the layout is kept clean and uncluttered; even the interconnecting cable harness is laced to keep it orderly.

Batteries in the black box make this a portable radio. I left enough space on the board for your audio amplifier. I will send a great photo of that addition, suitable for the centerfold of *Popular Communications*. Keep up the good work, and let's build more stuff. Very truly yours, Jim Whiting, K0VAN."

Thank you Jim! Wow, what a very interesting receiver—the melding of vintage parts with metallic modernistic knobs is far-out! I'd bet it draws many comments from visitors in your shack. There are still *two* unclaimed prizes awaiting a winner! The best news is that the prizes came out of Harold's Christmas bonus check, but shucks, no one has the heart to tell him yet.

On another note, reader Dick Barnes from Shreveport, Louisiana, writes: "Dear Pete, as per the photos, I have older '60s vintage Lafayette receivers and a Hallicrafters S-120. The Hallicrafters works superb, and I have a copy of the original schematic. What I would like to have, simply, is a copy of the schematics for each Lafayette receiver, a HA-52 VHF hi-band FM communications receiver, and the companion Lafayette HA-55 AM aircraft receiver, which isn't working. I am also looking for a Lafayette HA-50 30 to 50 MHz low-band VHF receiver in good condition with documentation."

Can anyone help with the schematics, or help Dick to locate a matching HA-50 in good working condition? Dick, the Internet auction site, eBay, might be a good place to start. I'll post some of my favorite resources for finding copies of vintage radio manuals at the end of the column. It is kind of neat to see someone still using the older analog dial VHF AM and FM receivers in their shacks! Sometimes, it is fun to get back to the basics of VHF monitoring. Dick's letter continues on to explain his interests in CB and shortwave listening, along with some additional nice photos; in fact, Dick is this month's "How I Got Started" winner!

Remember John Haught's winning "The Boy's First Receiver" entry just last month? Well, John has been very busy indeed! I've just received two photos from John showing his recent project: the single-stage audio amplifier featured a few months ago. Now, that is fast work.

John comments: "Hi Peter, Enclosed are photos of the audio amplifier as per your schematic which I've added to "The Boys First Receiver" project. I thought you might be interested in seeing them. I hope your column continues in the 'home-brew' theme. Good luck, John."

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We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16' ground plane with a separation of greater than 300' between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY (MHZ)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
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27.315	1.95	57
27.365	2.00	58
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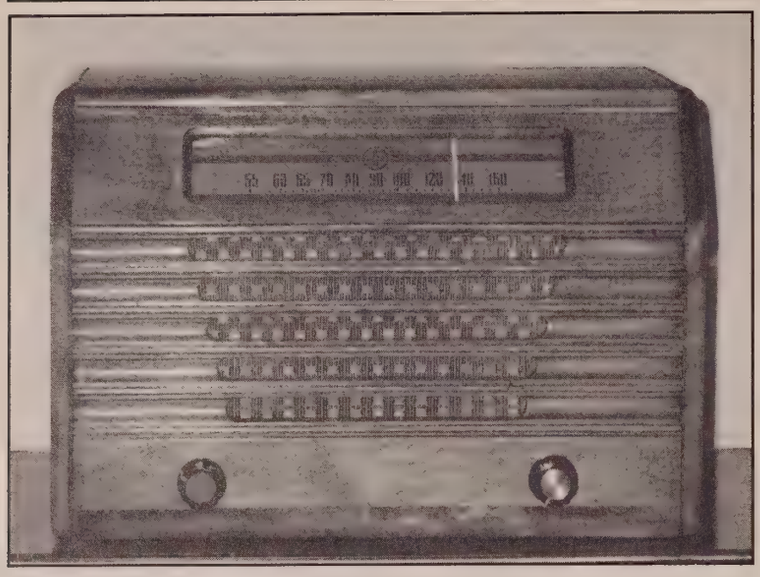
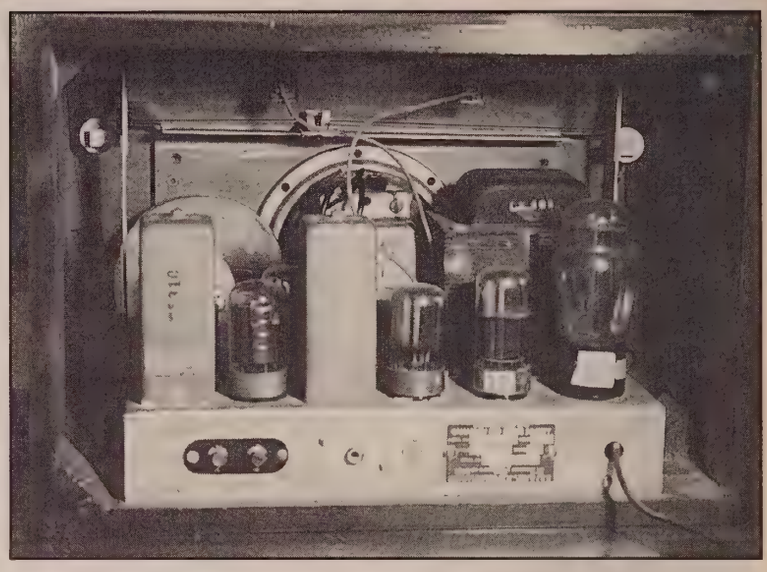
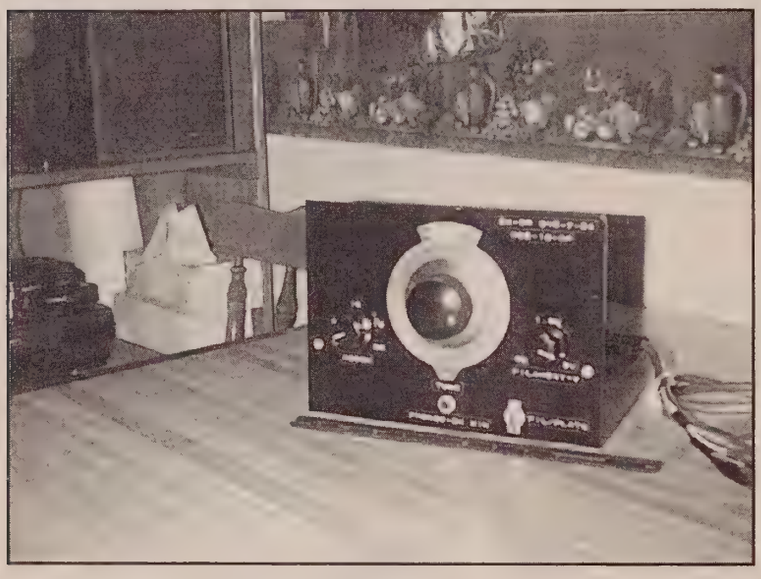


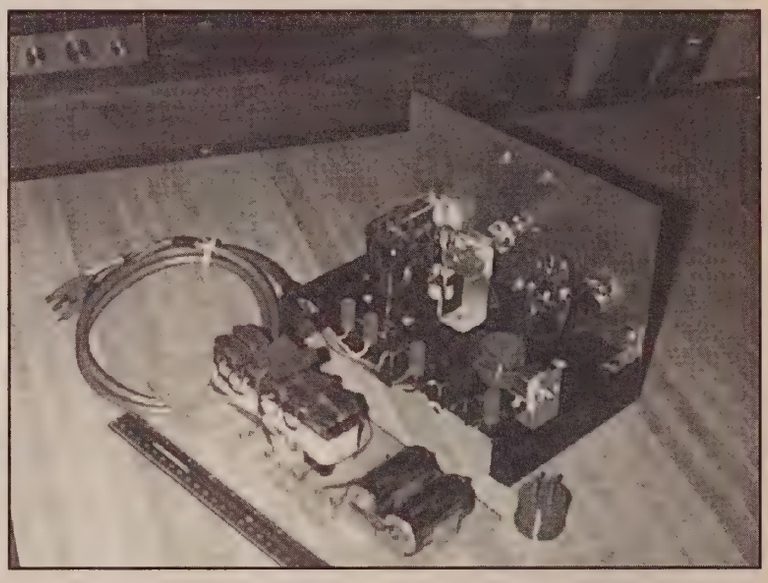
Front view of the Canadian Red Cross receiver. Does anyone know the history behind this WWII radio? Was it used for morale for hospitalized troops? If you know more about this set, drop us a line.



Rear view of the Canadian Red Cross receiver. The set is transformer-powered, making it unlikely that the set was a low-end mass produced unit intended for mass consumption.



Reader Robert Davey constructed the two-tube regenerative "DX-ER" from plans taken from a 1936 Shortwave Craft Magazine *article. The dial is a National Radio type "N." Cardwell Capacitor still produces similar radio dials.*



Here's a look behind the dial of Robert's receiver. Shortwave Craft's *"DX-ER" receiver is remarkably similar to our two-tube presentation!*

You bet I love to see radios built from plans in this column. John, you've made our day!

Reader John Kolozsvari from Mississauga, Ontario, sent in some interesting photos and a letter about a WWII radio supplied by the Canadian Red Cross. John writes: "Dear Peter, I thought that I would write and enclose pictures of a WWII radio that was given to me by a friend. It was made for the Canadian Red Cross Society by Dominion Electrohome Industries, LTD, in Kitchener, Ontario. The model number is X4515-1, and uses the following tubes: 80, 7B5, 7C6, 7A7, and a 7A8. Connections for a ground, antenna and audio input (*phonograph input? — Ed*) are provided for on the rear apron. The radio is in working order. Best regards, John."

This is a rather handsome set, and surprisingly, uses a power transformer, a rather costly item for what appears to be an inexpensive receiver. The Red Cross insignia on the radio dial is especially interesting. I suspect the knobs are modern replacements and not the originals. Can anyone shed some light on the purpose of this set?

Before going any further, let's take a look at the little regenerative set shown in this month's photos. Yet another entry in our "The Boy's First Receiver" contest? I'm afraid not! Here is the story as written by reader Robert Davey of Frankfort, Indiana.

"Recently, I saw your article about a 'Boy's First Receiver' and it prompted me to write. At the Indiana Historical Radio Society meet, I purchased several old copies of *Shortwave Craft* magazine. One issue, July 1934, on pages 155 and 175, had an article about the two-tube *'DX-ER,'* which I decided to build."

"My front panel is made from tempered Masonite with an aluminum foil on the back for shielding. The chassis is also tempered Masonite, with 1 x 2-inch wood ends for support. The chassis and panel were painted black using Rustoleum spray paint. The dial is an old National Radio model 'N.' The front panel is 10 x 7 inches, while the chassis measures 10 x 6 inches. Two type 30 tubes are used.

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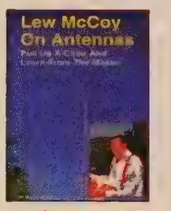

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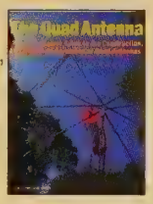

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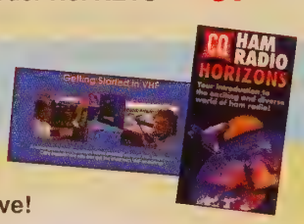

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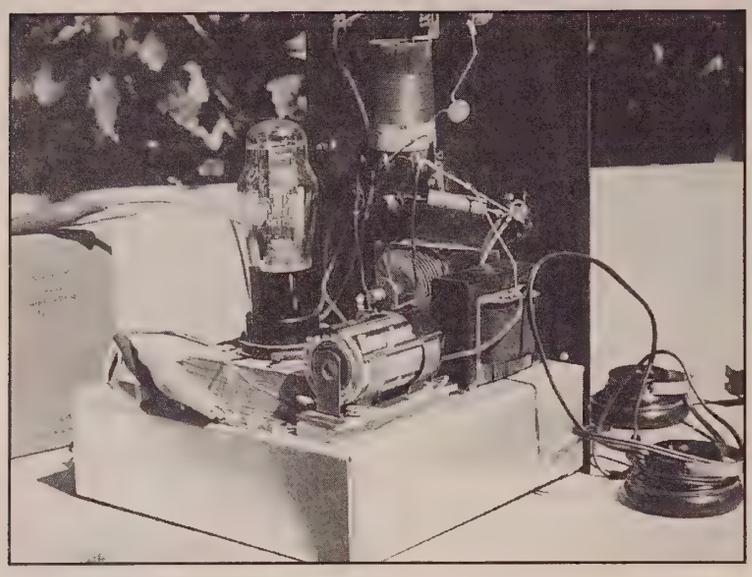

Rear view of Don's transceiver project.

Don Aprin is all set to hear DX, and to talk to them at the same time using his novel regenerative transceiver. Note the tiny pencil tube on the left side of the front panel.

Power is supplied by two D alkaline cells for the filaments, and the B+ is supplied by ten 9 volt transistor batteries in series; to supply 90 volts for the audio stage, with a tap a 45 volts for the detector. Battery life is good."

"I am 73 and retired. Several Hallicrafters receivers — an S20-R, S41C, and a S-120 — along with the RadioShack DX-160 and DX-302 SW receivers, are also featured at my listening post. Robert Davey."

Robert, thank you very much for the information.The schematic for the *DX-ER* for those interested in seeing it is reprinted below. Robert noted he used coils based on information provided for another receiver article appearing in a vintage *Shortwave Craft* magazine—the "2-Tube Old Reliable." However, coils designed for "The Boy's First Receiver" should work equally well in the "DX-ER" design.

During the late '20s and throughout the '30s, *Shortwave Craft* and other hobbyist magazines catered to the needs of countless radio experimenters. Little did it matter that most one or two tube receivers were basically the same; the public was eager to try the latest tube or coil winding variation in their favorite receiver. One thing remains the same throughout time: nothing equals the thrill of hearing a radio that you constructed play for the first time.

Harold passed along a somewhat unusual project concocted by reader Don Aprin, KA9WKQ, of Thorton, Illinois. Don assembled a simple two-tube receiver based on a design he used back in the 1960s, but with an interesting twist. Don discovered that adding a carbon mike in series with the detector B+ allowed him

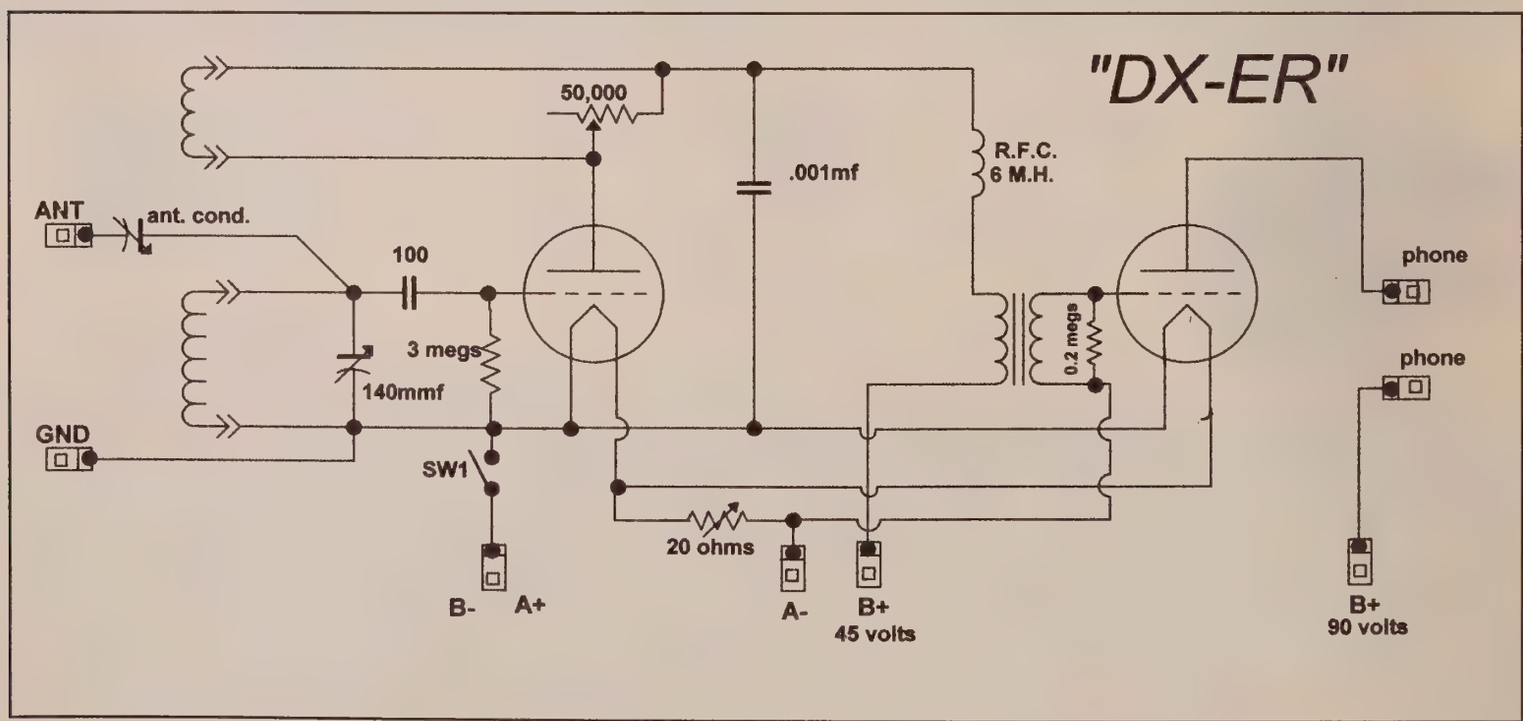

Figure 1. Schematic of the Shortwave Craft "DX-ER" *two-tube receiver. Electrical differences between the "DX-ER" and "The Boy's First Receiver" are relatively minor.*

Radio Resources

Here's a list of the dealers mentioned in this month's column. Please mention you saw them here, in *Popular Communications Magazine*, when requesting information or placing orders.

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Here's our recommended list of resources for finding those rare and out-of-print vintage manuals and schematics. These dealers can help you find manuals for vintage shortwave or VHF radios, scanners, televisions, ham or audio/hi-fi gear.

A. G. Tannenbaum
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to modulate the incidental radiation from the set to make a low-range AM transmitter! The detector tube is a SN729F "pencil tube" (*these tiny tubes were used in early hearing aides and in warhead proximity fuses during WWII — Ed*) and a tube 1H4 for the audio stage. The carbon mike was salvaged from an old telephone, and the front panel appears to be salvage from some old WWII radio apparatus. Don reports a transmitting range about that of what can be expected under FCC Part 15 regulations, a coverage area equal to a baseball field.

Our final letter was E-mailed by reader David Braudaway. "Now that your contest is nearly over, I will tell this story. It was 1945, and I was 13 years old and doing radio repairs although parts supply was difficult. Before that, when I was ten, I was building crystal sets with all square-corner wiring using home-wound coils, etc. Using 100 feet of antenna, I could hear KOA in Denver — some 200 miles distant — and also the two local stations in western Nebraska. I wanted something more."

"I found a broadcast band coil with a rotating 'tickler' winding. It had an excellent high-impedance primary winding that covered the broadcast band when used with the 365-pF capacitor in the crystal set. I decided on a two-stage radio from a design in *Popular Mechanics* from about 1936. Both tubes were type 49 screen-grid power amplifiers. The radio used an audio transformer for coupling. Battery life was good for over a year's use, and I was able to receive over a hundred different stations in time by using optimal propagation skip and reflection characteristics."

"By 1950, one of the 49 tubes had failed and I could not get a replacement, so the radio was dismantled. Construction was on a varnished pine board with a Masonite front panel using a tuning capacitor and dial salvaged from a damaged Atwater Kent. I got into trouble with the radio; after curfew, I would listen under the bed covers, using headphones of course! One night, at ten o'clock, while listening to a program from afar, the banjo and guitar duet was suddenly interrupted with a slapstick joke. My laughter gave me away — the one-liner was 'Head for the roundhouse Nellie, he can't corner you there!' Best wishes, Dave Brundaway."

Until next time! 73, and keep the letters and photos coming. ■

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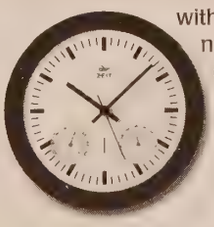

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CIRCLE 60 ON READER SERVICE CARD

scan tech

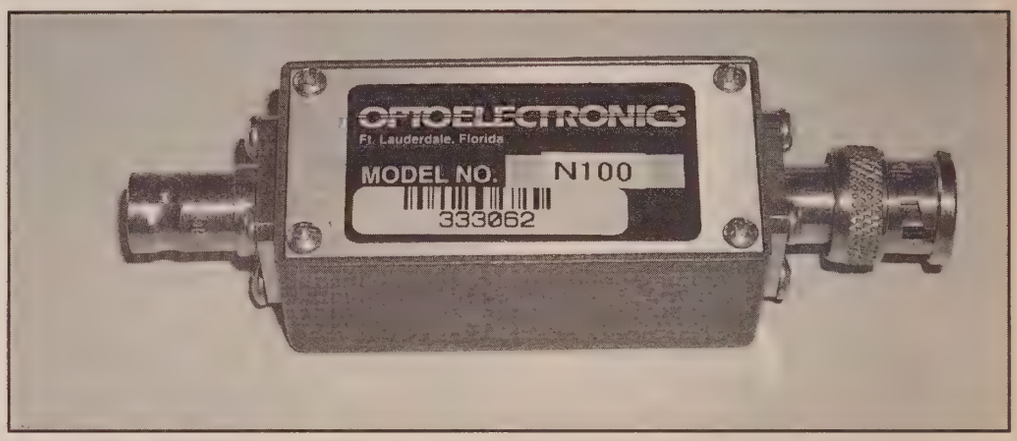
Trunking, Tips, Techniques, And Mods

Interference: Separating Truth And Myth

If you've listened to the scanner for more than about a week, you've probably heard some form of interference come across your receiver. Interference can come from a wide variety of sources and causes, as well as have a wide variety of cures, or be inherent to the radio and not fixable at any price. Some of the interference is very undesirable, in the form of pager beeps and data bursts, while sometimes interference is simply an unexpected station cropping up on the same frequency as your local police.

Often, undesirable interference is called "Intermod." Intermod is short for Intermodulation Distortion or sometimes abbreviated IMD. Technically, intermodulation is interference, but in most cases, it is very unlikely that this is what you're hearing on your scanner. Intermod occurs most often in a transmitter, and is something that technicians work very hard to avoid at major transmitter sites.

Specifically, intermodulation occurs when two (usually) strong signals mix together to form an unwanted third signal on a different frequency from the first two, referred to as the "product signal" or simply "product." This occurs through a very natural phenomena called **mixing** that allows the two signals to add together or subtract in a way that can often be calculated with simple math, although more complicated products can occur as well. There is usually an arithmetical formula that will define what and how the mixing is, but sometimes finding that formula is more difficult than eliminating the mixing problem.



This model N-100 filter from Optoelectronics is an excellent FM broadcast band reject filter, sometimes called an FM Trap. It rejects signals in the 88–108 range and eliminates interference from these strong broadcast signals. This particular one is especially convenient because it has BNC connectors to match your antenna jacks.

Where Mixing Occurs

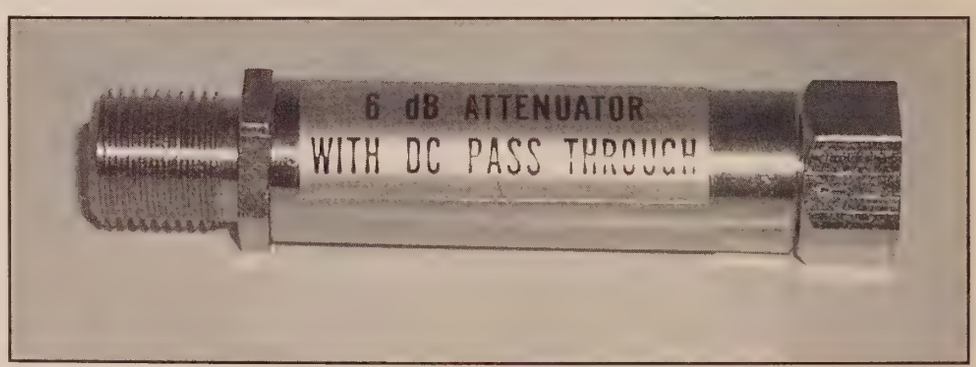
Mixing can take place in many places. Your receiver's Intermediate Frequency stages, or IF for short, rely on mixing to do their job. If it wasn't for mixing, your receiver wouldn't work, so it's not an evil plot, it's just the way radio signals work. The most common place for unwanted mixing is in the transmitter of one of the offending signals.

The signal from another transmitter, often very close by, so it's a strong signal, comes backwards down the second transmitter's antenna just like it would for a receiver. The two signals mix in the transmitter and then both are broadcast out of the second transmitter's antenna. It's really very efficient, unfortunately. The point is that if you have a real intermodulation problem, the users of the transmitter are likely to be quite aware of it and work very hard to get it corrected as soon as possible. Often, a device called an isolator is placed in the transmit line which only allows one-way traffic. This allows the outgoing signal through, but anything coming into the antenna and backwards down the system is shuffled off to a dummy load or ground.

One more type of interference that is possible from the transmitter end is **spurious products**. Essentially, these are the result of mixing, usually within a single transmitter that doesn't get dealt with correctly, and is allowed out the final amplifier and into the antenna. Spurs can be quite broadbanded and found a considerable distance in frequency from the desired transmit frequency. Once again, this is a transmitter problem and the folks who maintain that equipment are going to want to get it dealt with quickly to avoid possible fines and other problems with both neighboring transmitters and the FCC.

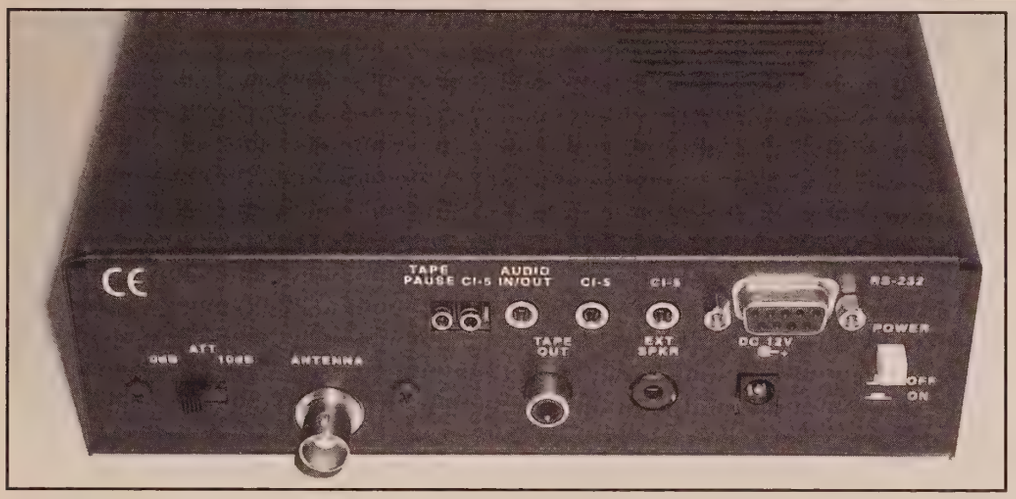
So What *Are* We Hearing?

So, if it's not intermod that we're receiving on our scanners, what is all that



Here's a 6-dB attenuator from RadioShack. It can be quite effective in reducing strong signals across the band. Note that it uses type F connectors, so make sure you get adapters too!

BY KEN REISS <armadillo1@aol.com>



Some receivers, like this Optocom receiver, have an attenuator built right in. It's the switch at the far left on the back panel. Try that first, if you have one, before adding outboard accessories.

stuff? More likely than not, it's front-end overload. In other words, it's the receiver's design failing in the environment we've put it into.

To better understand what's happening here, let's take a quick look at receiver design. Don't panic, we won't have to go any further than block diagrams, so it should be painless. In fact, we'll start with something we're all familiar with — the antenna.

The antenna is really the beginning of your receiver's signal processing circuitry. And that can be good or bad, depending on the types of signals you're trying to receive and what else is around. All of the Radio Frequency energy around your radio hits your antenna. Everything from broadcast AM stations to microwave relay transmissions, if any are around, to TV stations and oh yeah — that public safety stuff we're TRYING to monitor.

So, your antenna has two jobs, really. One is to pick up that signal we want, and the other is a first line of defense to not pick up, or at least minimize those unwanted signals, some of which are quite strong. We do that, of course, by tuning the antenna to the frequency range we want to receive; it helps maximize the signals we do want, while minimizing the reception of signals we're not interested in hearing.

But even a well-tuned antenna is going to pass more than the desired signal down the coax. Your antenna has no way of knowing what frequency you're actually trying to hear, so it will pass all signals down to the receiver that fall within its range of operation. If you're trying to listen to 154.830 but other stations at 154.845, 154.860, and 154.815 are also transmitting at the same time, they're all going to wind up at your receiver. Of course, most of us use fairly broadbanded antennas so that they can receive VHF/UHF and 800-MHz signals, so all of that is coming down into your receiver at once.

Once the signal travels down the lead to the receiver, the real work begins. The signal from the antenna arrives at the first Radio Frequency or RF stage of our receiver. Received signals are relatively weak, so in order to extract the meaningful audio from them, we have to amplify the desired signal while getting rid of more undesired ones. Of course, *your receiver's ability to receive a weak signal is called sensitivity* and can be measured. Most modern scanners don't have any trouble with sensitivity; if anything, they receive *too much*.

Amplifying the signal is the easy part, but remember that all of them came down the antenna lead. *The ability of the receiver to pick out just one signal from all that stuff coming down the coax is* ***selectivity***. Here's where a lot of our scanners begin to have a bit of a problem. We want wideband receivers; one receiver that covers everything we might want to listen to. But in order to get that, especially at a price we're willing to pay, some of the filtering and other selectivity-enhancing circuitry has to be left out, or compromised.

There are a couple of other problems associated with the RF stage that you may see as well, particularly in an urban area. Let's suppose for a minute that you're right downtown where all the transmitters are, and you're trying to listen to a car on 154.830. Since this signal is relatively weak, the RF amplifier will need to amplify the signal quite a bit. Circuitry in the receiver is designed to regulate the amplifier, based on the incoming strength of the signal. So when the receiver sees this weak signal, it tells the amplifier to step up to full power and get that car's signal. Everything is wonderful and we hear the car's transmission.

Now, suppose that only 15 kHz away at 154.845 is a powerhouse base station located very close to you. Just at the same time the car on our desired frequency transmits again, this base station comes on too. In an ideal world of perfect receivers, nothing would happen; the RF stage would still amplify your car's transmission and the filtering and selectivity would block the stronger base transmission. But alas, this is not a perfect world, particularly in the realm of the wideband receiver.

One of two things can happen, both of which are very annoying. One is that the strong base signal can get through the filters, and since it's so strong, overload the following stages. The audio stage processes the audio and you hear the resulting mess. This is what's happening most of the time when you hear paging transmitters on your local police department frequency.

The second possibility is a bit more dastardly to detect. Suppose that as the

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two stations transmit at the same time, the signal strength from the stronger, but off-frequency one, makes it to the circuit that controls the amplification. So it throttles the amplifier back. But what happens to your weaker car transmission? It's gone — fallen below the noise as the stronger signal probably bleeds through or causes noise. This is an extreme case of a problem known as *desensitization*, and many consumer grade radios will exhibit its symptoms. *The measurement of the radio's ability to process weak signals correctly in the presence of much stronger ones is called* ***dynamic range*** — a specification you'll rarely see published on most scanner equipment.

It's actually the job of the second stage, the Intermediate Frequency section or IF to begin extracting just the one signal. This is done through a mixing process, just like the mixing process that causes intermod, but this time it's a desirable, in fact, required mixing. The idea is that the desired receive frequency is mixed with a locally-generated frequency to produce a third frequency, the IF. In most cases, the desired IF is the difference of the two, but there are other frequencies produced as well. If all goes well, those extra frequencies are sent harmlessly to ground, and never heard from again. But if the filtering and other circuitry doesn't do that, we begin to hear audio from undesired signals. It may be poor filtering in our own receiver that's causing the problem, or it could be overloading the RF or IF stages. Either way, the result is the same: stuff we don't want to hear.

Most scanners today are at least dual-conversion, many are triple and a few have more than that. What that means in English is that the first IF frequency is then passed to another IF stage where the whole mixing process is repeated. That helps to eliminate some of the undesired byproducts of the mix, and filter the incoming signal further. Of course, the more stages we run this through, the more immune the receiver will be to certain types of spurs and overload. The down side is that the extra circuitry required to add IF and filtering stages costs money in the production of the receiver which shows up in the final cost. While it is possible to design a bulletproof interference-free receiver, or at least one with a high degree of immunity, you'll pay top commercial equipment prices for it, putting it out of reach for most of us hobbyists.

So What Can We Do?

We can start with the right radio. Generally speaking, you get what you pay for, although not always. If one radio costs $150 and the other goes for $300, there's probably more to it than just a few extra memory channels. A lot of times that $300 set will be triple conversion, or have additional filtering or at least attenuators to help you deal with stronger signals.

As you go higher in cost, you move into communications receivers whose primary advantages show up as selectivity and dynamic range. If you can't find a scanner that will handle the problem, perhaps you might consider one of these rigs. Radios like the IC-R8500 and the AR-5000 are much more immune to interference than most scanners. The down side, of course, is that they are also three to 10 times the cost of most scanners, and may not offer as many *scanning* features as many lower priced radios. You'll have to decide just how bad that interference really is. And even at these prices, these radios aren't completely immune either. Under the right circumstances, both will desense, and probably overload if the signal gets strong enough. But it won't happen nearly as often as with your average scanner.

Having said all that, this is one case where throwing money at the problem isn't always the answer. If you're suffering with a lot of interference problems and looking to upgrade your scanner, see if you can arrange with a friend to bring over one of the models you're considering. Or at a minimum, make sure that you buy from a dealer who will allow an exchange if it doesn't work out.

The interference that one receiver will be burdened with may not affect another receiver with a slightly different design. I've seen cases where, because of the frequencies involved and the IFs used in the receiver, a triple-conversion receiver was simply blown away with interference (mostly overload) while a double-conversion model with different IFs worked fine.

If you're not shopping for a new radio, but still having problems, what can you do? There are a few things to try. First, try the built-in antenna. Often, an outdoor or attic-mounted antenna increases the signal strength of the interference just as much as it increases the signals you're trying to hear. The receiver can't overload on signals that it never hears in the first place, and if you're in a metropolitan area, the built-in or back of the set antenna may be all you need.

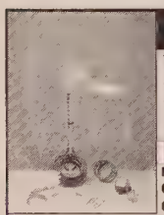
We often get letters that start out "I live in downtown (pick a major metropolitan city) and am having trouble with my scanner. I'm using a discone/ground plane/ beam antenna up (20 to 50 feet) in the air. I just added a preamp and am getting all kinds of interference. Any ideas?"

Well, after the discussion above, you should already know the answer, right? This person has overloaded their scanner with way too much signal. Take out the preamp, and if that doesn't work, try less antenna.

Try Some Attenuation

If reducing the antenna doesn't do it, or if you're still having trouble, how about dropping the signal level overall with some form of attenuator. Many of the higher end scanners have an attenuator built right in. Turn it to the -10 or -5 position (depending on which choices you have) and see if your performance improves. Radios like the BC-9000 from Uniden have an attenuator that can be switched in and out per channel, so you only have to turn it on when you're having problems.

Note that if you've already discovered your scanner works better this way, you've probably got a problem of some sort. In heavy metro areas, this is a good way to go. You can also buy attenuators that go in-line with the coax and lose some signal for you. They're not very expensive, and if you don't have one built into the scanner, it's a tool you might want to have around anyway.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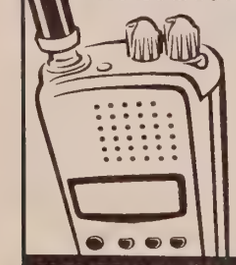
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If the interference affects only *one band*, or only *one favorite frequency*, consider a dedicated radio. Lots of older crystal-type receivers only covered one or two of the public safety bands, and many of them had pretty good front-end design because of that, and the fact that they didn't have to be left wide open to hear all the frequencies our modern receivers cover. Some-times, these older crystal sets or early programmable ones can be found for very little money, and make excellent monitors for those problematic frequencies.

Another solution that might work if the interference is confined to a few frequencies, is a CTCSS or DCS capable scanner. Of course, the transmitting station that you want to listen to has to transmit a CTCSS or DCS tone, but many of them do these days in order to keep down interference in their own systems. If you don't know what these are, or have questions, look at June '99 "ScanTech," or write in. As we get enough questions, I'm sure we'll revisit this topic again in a future "ScanTech."

Finally, you can resort to filters. We've talked a bit about filters in the past, but here's an excellent application for a band pass or band reject filter. If you're having trouble with just one transmitter, and it's not near the frequency range of what you're trying to listen to (a paging transmitter in the 150 range is interfering with police and fire calls in the 154–156 range), a rejection filter for the 150 range might be in order. Some manufacturers are offering notch filters to allow you to filter out just a narrow band of frequencies around the offending paging transmitter.

On the other hand, if you're only interested in hearing radio traffic on your city's 800 MHz trunked system, but you're getting interference or desensitization from nearby transmitters in other services, a band-pass filter for the 800-MHz range might be in order. These too are made in a wide variety of sizes and specs to meet many applications. The idea here is that anything inside the pass is allowed through, but everything else is rejected or greatly attenuated.

Filters have some drawbacks. They tend to be a bit expensive, and some of them need to be tuned. If you aren't sure how to do this, it's probably best not to mess with that type of filter; see if you can't find something that's easier to use.

Also, filters, by their very nature, eliminate signals from your receiver, which is not something we really want done to our nice wideband receiver. I have an 800 MHz pass filter on one of my receivers that I use for a trunking system about 10 miles away. By putting this filter in place, I've been able to improve reception and eliminate a lot of strong signal overload and desense that I was getting from more local signals. I forgot about that filter one time and just about drove myself nuts trying to figure out why that radio wasn't receiving much of my local police in the VHF range. Eventually, the light bulb went on and I quit using that receiver for anything but the city's trunked system that it was set up to monitor.

Your Input Needed

Got a question, or found a neat way to get rid of interference that we didn't mention? Send it in. We're always looking for your input on articles or topics you'd like to see covered here in "ScanTech." Send your ideas to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126 or via E-mail to <armadillo1@aol.com>. ■

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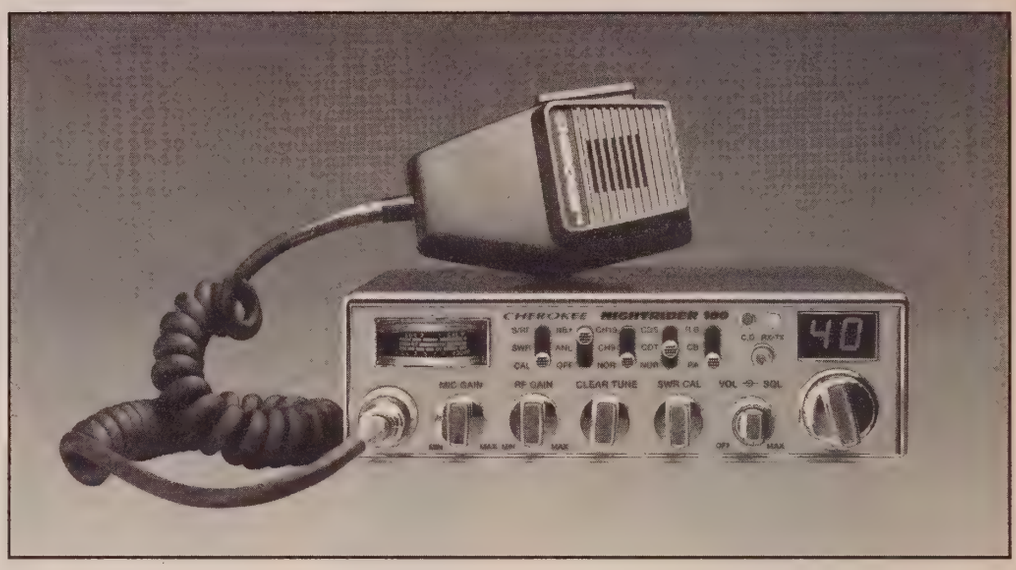
27 MHz Communications Activities

Dixon Asks For FCC Rule Change, And Two Terrific New Rigs From Cherokee

Pop'Comm's very own Alan Dixon ("Washington Beat" columnist) has done a very bright and creative thing. He has submitted a petition for rulemaking to the FCC for "Amendment of Section 95.413(a)(9) CB Rule 13 Prohibition of Communications or Attempts to Communicate with Citizens Band Stations More Than 250 Kilometers (155.3 Miles) Away. Petition for Regulatory Relief of Burdensome And Unnecessary Rule that Inhibits the Public's Simple and Unencumbered Access to this Communications Service."

Now, in case you weren't aware of it, the rule that Alan wants amended currently makes it illegal to communicate with a station more than 155.3 miles away. That's right: illegal. You could be fined or otherwise punished for violating this rule, as CB operators have been in the past. But what makes this rule particularly vicious and evil is long-range communication is entirely a natural phenomenon. Skip, as it is known, is caused by changes in the Earth's ionosphere. When the ionosphere is charged up, local signals can bounce off it and travel long distances. It's not something the CB operator has control of. Further, the whole business of long-range propagation follows an 11-year sunspot cycle. No kidding. When the number of spots on the face of the sun is up, it can be easier to talk hundreds of miles than to talk across town. I have personally talked from New York State to Georgia on 4 watts AM and to England on 12 watts single sideband, in the *legal* 40 channels and without "trying." It simply happened as part of an attempt to communicate with a local station. This has to be — hands down — the dumbest rule in the FCC playbook, and it should be changed.

You can express your support for Alan's petition by visiting and joining the U.S. CB Operators Association on the Web at <http://home.att.net/~uscb_association/>. It costs nothing to join this organization, and it has every potential for being a powerhouse in the future. Alan Dixon, my co-columnist Ed Barnat, and I have all joined USCBOA. If we get organized as CB operators, perhaps we can change things. I think it was Ben Franklin who said: "We must hang together or we most assuredly will hang separately."



The Cherokee Nightrider 100 delivers excellent AM-only performance.

Cool New Radios

Every once in a while, I get a note from a "CB Scene" reader that goes something like this: "You must have the best job in the world — you get to mess with all those cool CBs."

I must admit, it really is a lot of fun to test radios for this column and tell you about them. But there's a downside to doing a column like this. Put simply, after you've had your hands on most of the really neat radios, you get to be a bit of a radio snob. When a new radio comes in the door, you aren't really impressed unless it is at least a little bit better than the last radio you tested. So when Cherokee asked me to have a look at their new Nightrider™ series of mobile CBs, I had high hopes that they would deliver some radios that would put a grin on my face. And, boy, have they ever!

The reason these radios are called Nightrider is that they have what Cherokee calls "Radiant-View back lit front panel with 'light pipe' technology for complete illumination of the front." What that means is that when the radio is powered up, the entire front panel glows like one of those watches in which the whole face lights up. That makes these radios really easy-to-operate when they are tucked in the shadows under a dashboard or when you're burning up some miles and making a hole in the night. When these electroluminescent displays are turned off, they look like white plastic. When the power is on, these front panels glow with a soft, blue light that neatly backlights the lettering for each of the controls. That makes it really easy to figure out, at a glance, what control does which function. If you've ever fumbled in the dark with a conventional radio that has lettering on, say, an aluminum face plate, you'll instantly appreciate the convenience of a fully illuminated panel. And, if you want to preserve your night vision, you'll also applaud the ability to dim these glow-in-the-dark front panels. True, some other manufacturers have tried to help nighttime visibility with illuminated circles around knobs and buttons, but these new Nightrider radios set a new standard for low-light usability.

But, as nice as it is, that glowing panel is not what makes these radios great. I'll

BY JOCK ELLIOTT, SSB-734 <lightkeeper@sprintmail.com>

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reveal the secret in just a little while. First, let's take a detailed look at these two rigs.

The Nightrider 100

The Cherokee Nightrider 100 is a 40-channel AM-only mobile rig. Measuring 2 3/8 inches high by 7 3/16 inches wide by 9 1/8 inches deep, this rig has a bottom-firing speaker and connectors for antenna, public address speaker, external speaker, and power cord on the back panel.

The front panel is where this rig gets interesting. At the upper left is a meter for measuring relative output power, received signal strength, and SWR. To the right of the meter is a three-position switch that controls the operating mode of the meter. It can be set for transmit and receive signal strength, SWR, or SWR calibration. To the right of that, another three-position switch can be used to select different noise cancellation circuits for received signals. The Automatic Noise Limited position turns on the noise reduce circuit to improve the sound of the incoming transmission, and the Noise Blanker does a good job on repetitive pulse noise, such as ignition interference.

Moving again to the right, another three-position switch allows normal CB channel selection or instant access to Channel 9 or Channel 19. The next switch to the right is used to activate the Clear Drive audio compander circuit. The CDS (Clear Drive System) position makes full use of the compander circuitry. The compander is comprised of two parts, a compressor for transmit audio and an expander for received audio. The compressor reduces the dynamic range of the transmit audio by increasing gain for low-level signals and decreasing gain for high level signals. The expander reverses the process on received signals and increases gain for high level signals and reduces gain for low-level signals. The whole idea is that when two Clear Drive-equipped radios are used — one on each end of a conversation — the dynamic range of the audio signal is preserved, but the noise is greatly reduced.

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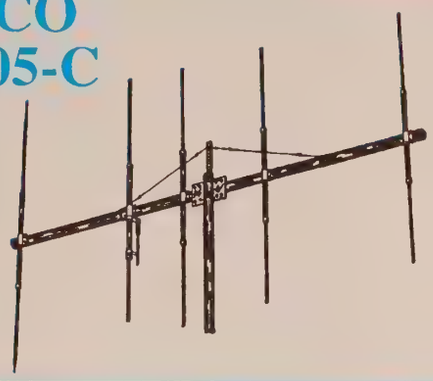

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The Nightrider 150 also has an illuminated front panel, plus range-extending single sideband.

The last switch in the row allows the rig to be operated in public address mode, in regular CB mode, or in CB mode with a roger beep tone at the end of every transmission. Just to the right of that is a switch for dimming the front panel illumination, a small LED to show when the Clear Drive is activated, an RX/TX indicator, and a large channel number indicator. Below the channel display is a channel selector knob, and to the left of that, you'll find a pair of concentric chrome knobs. The inner knob turns the rig on and off, and controls the volume. The outer knob adjusts the squelch. To the left of that, there is an SWR calibration knob, followed by a "Clear Tune" knob, which allows variation of the receive frequency to move away from interference. The RF gain knob is next in line, followed by the mic gain knob and then the microphone connector.

The Nightrider 150

The Nightrider 150 measures 2 3/8 inches high by 7 7/8 inches wide and 9 1/4 inches deep and offers all the goodies of the Nightrider 100, PLUS sideband mode, which can nearly double the communica-

tion range between CBs (when both are using sideband). While the Nightrider 150 has the same back panel layout and bottom-firing speaker as the 100, the front panel setup is actually simpler.

At the upper left corner is a three-function meter, then just four switches: one for the automatic noise limiter and noise blanker, another for public address/CB/roger beep functions, then a switch for turning the Clear Drive circuit on and off, and finally a two-position switch for front panel brightness. In the upper right corner is the channel indicator with a small receive/transmit LED next to it. Beneath the channel readout is the channel selector knob. To the left, there is the AM/lower sideband/upper sideband selector knob, followed by a three-position knob for controlling the meter function. Next, there are three concentric knob pairs. The first — in the bottom dead center of the radio — uses the center knob for RF gain and the outer knob for SWR calibration. The next pair is for on/off/volume (center) and squelch (outer). Finally, the last concentric pair consists of an outer ring for microphone gain and the inner knob for clarifier. At the lower left corner of the 150's front panel is the four-pin microphone connector.

What Makes These Cherokee Radios Great

Now, frankly, if you took a barely average radio and stuck an illuminated front panel on it, you would still have a mediocre radio. Fortunately, the performance of these new Nightriders shines even brighter than their front panels. In head-to-head testing under gawdawful skip conditions against my "gold standard" radio — a completely unmodified Cobra 2000 — in most instances, each Nightrider outperformed the Cobra on both transmit and receive. Even though South American stations were thundering in, my test partner (and co-columnist) Ed Barnat was able to hear me better when I was transmitting on the Nightriders, and I was able to hear him better on receive with the Nightrider radios.

We also found that the Clear Drive technology helped to boost both transmit and receive signals. To be fair, Clear Drive didn't always help in every situation, but the difference was noticeable at least some of the time.

The bottom line: the Nightriders are terrific radios. Even if they didn't have that fancy illuminated front panel, they would still be great radios. The front panel, well, that's just frosting on the cake. Suggested retail price of the Nightrider 100 is $199.95, and SRP for the Nightrider 150 is $239.95. For more information, call 800-259-0959 and tell 'em you read about them in *Pop'Comm*.

Until next time, keep those cards, letters, and shack photos coming. Write to me at *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail me <lightkeeper@sprintmail.com>. ■

Editor's Note: As we go to press, Dixon's petition has been formally accepted for filing at the FCC. Please check his "Washington Beat" column on page 75 for detailed information or visit our Website at <http://www.popular-communications.com>.

The "Smokin' Gunn II" two element directional beam.

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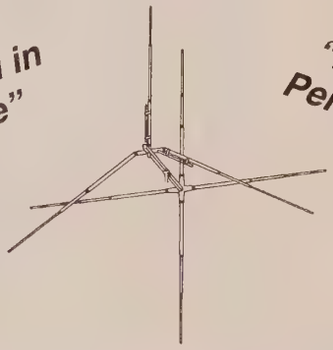

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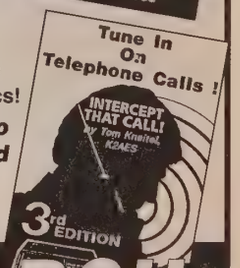

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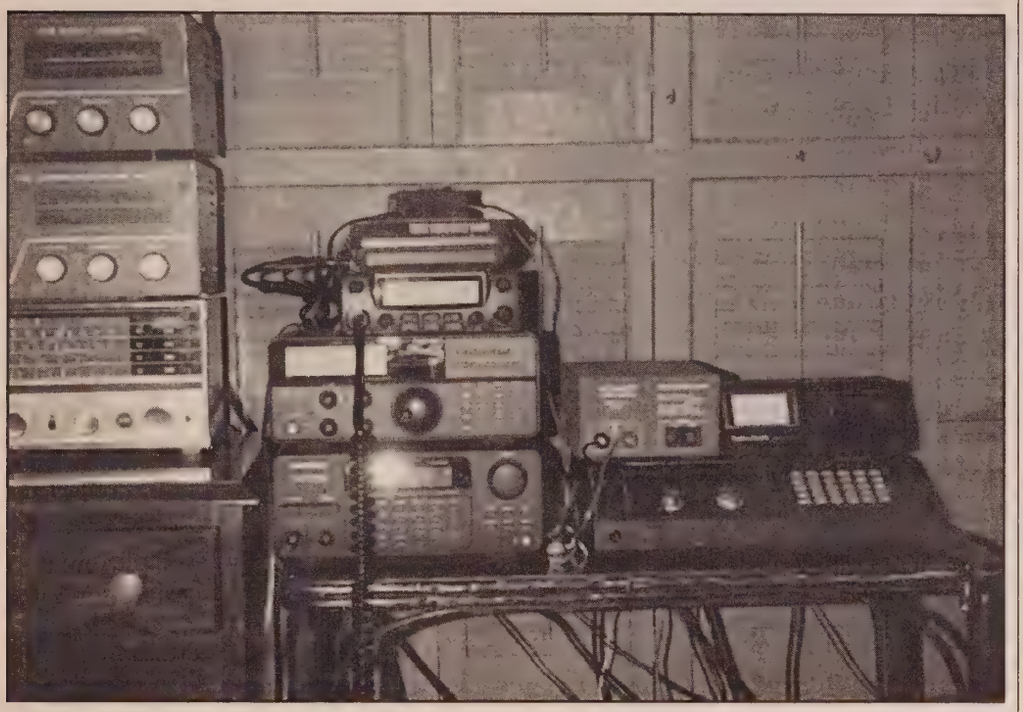
how I got started

Congratulations To Richard "Dick" Barnes Of Louisiana



Richard's well-equipped shack in Shreveport, Louisiana.

Popular Communications invites you to submit, in about 150 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

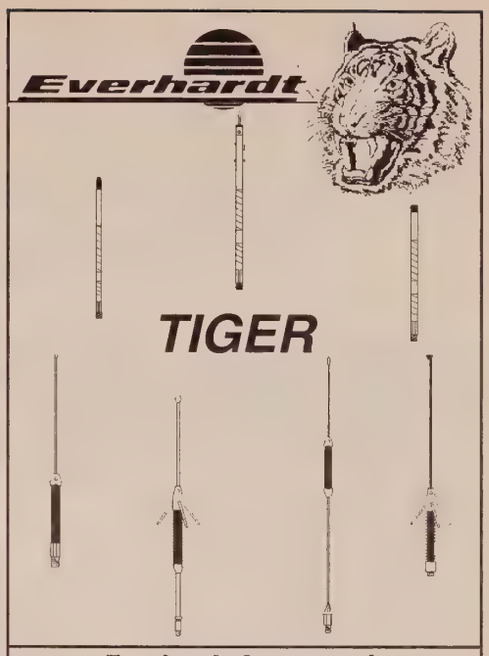
Each month, we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications,* and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual, or even humorous. We reserve the right to edit all submitted material for length, grammar, and style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos. If you're E-mailing photos, please send them in a separate E-mail with your name in the "subject" line.

Our February Winner

Pop'Comm reader, Richard "Dick" Barnes of Louisiana says, "I'm 61 years old and have been a shortwave listener for many, many years. I have been a CBer since 1964; my old call was KEB5373. As you can see, I use a RadioShack TRC485 SSB mobile CB, and also listen to shortwave using a RadioShack DX394 shortwave receiver. I have a RadioShack PRO-2035 1000-channel scanner, and also the RadioShack PRO-2003, PRO-2004, and PRO-2006 scanners. I am retired and have the time to do a lot of listening!

For antennas, a tall tree supports my Antron-99 for CB, and for shortwave, I use an inverted Vee. I also have a discone antenna for the scanners. I hear Australia at 1 a.m. like a local FM station — superb!" ■



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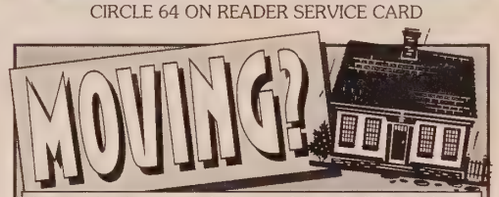

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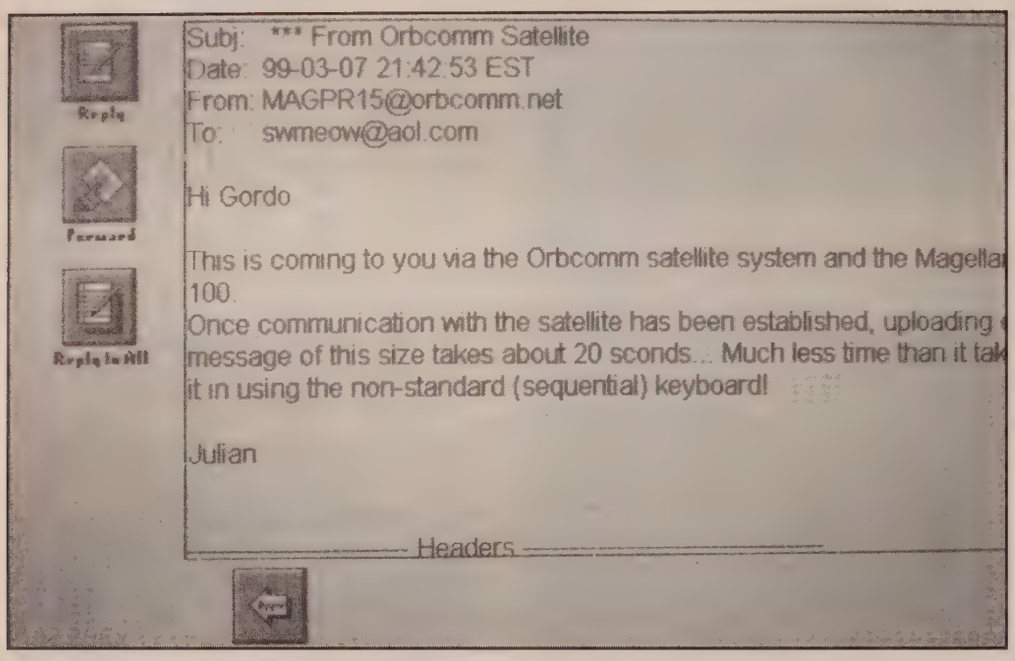
Interesting Thoughts And Ideas For Enjoying The Hobby

Satellite Messaging With A $99 Communicator


Subj: *** From Orbcomm Satellite
Date: 99-03-07 21:42:53 EST
From: MAGPR15@orbcomm.net
To: swmeow@aol.com
Hi Gordo
This is coming to you via the Orbcomm satellite system and the Magella
100.
Once communication with the satellite has been established, uploading
message of this size takes about 20 sconds... Much less time than it tak
it in using the non-standard (sequential) keyboard!
Julian
Headers

Sending an outgoing message is easy from any E-mail system at home or in the office.

If you travel to remote areas with your communications system, but still need the capability of incoming and outgoing E-mail access, a little portable data communicator that sells for under $99 may be just for you. I have been traveling with my Magellan GSC 100 for over a year now, and I can tell you firsthand that the equipment and the associated satellite service from Orbcomm works. But when the equipment originally sold for $1,249, I didn't do too much writing about it because I felt a kilo-buck was a lot for someone to spend on a brand new service that almost no one knew about in the recreational radio field. But now that the equipment is available for $99, the story gets much better, but with some specific precautions:

A. You sign a monthly contract for three years of service at $39 a month.

B. Incoming and outgoing messaging should be limited to telegram-type text, not long-winded E-mails with attachments.

C. When using the equipment in certain European countries, local laws may be strictly enforced. (In other words, don't get it confiscated because they might think you are trying to skirt their local wire-line service)

But, for use in North America, get set for almost-instant E-mail connections, both sending and receiving.

The handheld "AA" battery-operated GSC 100 works through a constellation of 28 low-earth-orbit Orbcomm satellites. The constellation of satellites has been up and running for over a year. The longest I ever had to wait for a passing satellite was 15 minutes in trying to uplink and downlink out of the steep gorge at Zion National Park along the West Coast. Everywhere else, you pull up the antenna, give the combination GPS and data sender about two or three minutes to locate itself and the orbiting satellites, and whiz-bang, the yard-long whip locks onto an Orbcomm satellite in view.

Q. What frequency band do most low-earth-orbit satellite systems use?

A. Microwave near 10 GHz
B. 148 up, 137 down
C. 400 MHz
D. Spread-spectrum 900 MHz

A. The answer is B — 148 to 150 MHz uplink, and downlink is 137 MHz to 138 MHz. If you have a 2-meter antenna on your car, you could very easily use that same antenna as the outside antenna system for your GSC 100. Magellan offers an external antenna adapter cable for this purpose. You would NEVER tee off of your present 2-meter antenna set-up; you would use a coax switch to select the external antenna running directly to your GSC 100 data communicator.

Gordo sending an E-mail in Zion National Park with his handheld Magellan GSC 100 Data Communicator.

BY GORDON WEST, WB6NOA

Scan Our Web Site

Q. What are the baud rates?
A. 56 kilobaud
B. 24 kilobaud
C. 9600 baud
D. 2.4 and 4.8 kilobaud

A. The uplink data rate is 2.4 kilobaud, and the downlink is 4.8 kilobaud. Addressing is X.400, and a standard message size is 2000 bytes maximum. For distant messaging thousands of miles away from the USA, store-and-forward message size is limited to 229 bytes.

As you can see, we are not talking about a big word count, so your incoming and outgoing messages need to be kept super short and formatted a little bit like the old-fashioned telegram.

The ground segment of the Orbcomm system is composed of a Gateway control center located in each of 190 countries. A Gateway Earth station transmits up to the satellite at 149.61 MHz at 56.7 KBPS, and a reception of the satellite from 137–138 MHz with the downlink channels having 50-kHz bandwidth.

The Orbcomm network control center is responsible for managing all of Orbcomm's network elements and the U.S. Gateways through telemetry monitoring, system commanding, and mission system analysis. In the USA, the NCC also serves as North America's Gateway earth stations, located in Arizona, Georgia, New York State, and Washington State.

When you send a message up from the little GSC 100, it is received at the satellite and relayed simultaneously down to one of four USGESs that connect the Orbcomm ground system with the satellites. The GES then relays the message via satellite link for dedicated terrestrial line to the NCC. The NCC routes the message to the final addressee via E-mail, dedicated telephone line, or FAX. Messages originated outside the U.S. are routed through GCCs in the same manner.

Messages and data sent to your GSC can be initiated from any computer using common E-mail systems, including your specific GSC 100 E-mail address. This will be a different address than your regular home or office E-mail address. You *want* a different address because you *must* tell everyone sending you messages to keep them abbreviated, without attachments, to the point, and ultra SHORT! Keep in mind that lengthy messages that you might download are going to cost you a surcharge on your normal $39.95 or $29.95 a month rates. You get ten, 500-character messages per month, plus a once-a-day message check, with messages over this amount costing you a penny a character.

Lots Of Extras

If someone needs to contact you over a telephone line, they'll call an Orbcomm message center and leave a short voice message to you that will then be transcribed into text, and relayed through the satellite. There is a $1 additional charge for this type of message. This means Mom doesn't need a computer to say hi to you out on the road or away from any landline.

For $3 extra, you can send a message back to Mom, and have the Orbcomm operator read it to her over her regular home phone service.

When seconds count, REACT needs you....

...to summon for help for an injured motorist, an elderly woman trapped in a fire, a trucker stranded in a blizzard, a drowning child!

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Your REACT team may also use CB, GMRS, Amateur, and other radio services to provide safety communications for events like parades, marathons, and even balloon races. The fellowship with other REACT members at team meetings and annual conventions is an added bonus, as is help with licensing, equipment advice, and radio training.

"The mission of REACT International is to provide public safety communications to individuals, organizations, and government agencies to save lives, prevent injuries, and give assistance wherever and whenever needed. We will strive to establish a monitoring network of trained volunteer citizen-based communicators using any and all available means to deliver the message."

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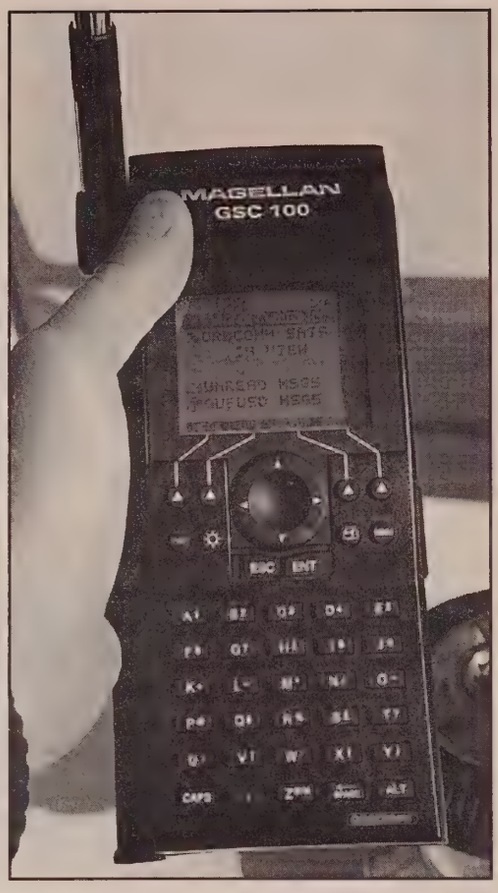
The Magellan data sender/receiver is also a GPS receiver.



Checking for messages takes only a couple of keystrokes.

The battery pack can run the GSC 100 for several hours of E-mailing.

Entering a message to be sent from your GSC 100 is a bit tedious because of the relatively small keyboard and the way the keyboard is laid out from A to Z. Your message can have a maximum length of 2,000 characters if you're in North America. If you're halfway around the world, the store-and-forward mode will only accept 229 characters. But what the heck — if you're out in the middle of the Atlantic or Pacific aboard a small life raft, and you need to get a message back home that you might need some help, 229 characters will do the trick.

Another nice feature of the Magellan GSC 100 is its built-in GPS receiver. This could allow you to send your position almost automatically with a few keystrokes. It also allows you to get double use of your equipment because the built-in GPS from Magellan acts like full-featured GPS equipment for tracking, plotting, waypoints, cross-track error, speed, and just about anything else you would care to see on the screen. (electronic charts are presently not available).

The LCD has plenty of contrast for good visibility in almost any lighting condition, and at night it is also back-lit. You can easily read the incoming text without granny glasses; and when you turn the equipment on, it will give you the status of any incoming or outgoing messages.

And you don't need to be standing right there and wait for the messages you have typed in to go out; simply put them into the outgoing message box, hit the send key, and the unit will automatically catch the next passing Orbcomm satellite, send the messages up to it, and then give you a confirmation that they indeed went off into space. At the same time, you will also get an indication that you may have some unread messages holding. These messages are automatically loaded into your equipment for later retrieval. In other words, you don't need to stand right there as your Orbcomm unit does its thing with the passing satellites.

No Voice — Text Only

The Magellan handheld communicator has no voice capabilities. The equipment is not part of the competition's Iridium system. All you get is text. But text is the heart of the overall Orbcomm program; over 60 percent of Orbcomm users are overland carriers that are constantly being tracked by the satellites. Twenty-five percent of additional users are remote-monitoring systems that automatically upload and download data from the satellites. Messaging using this type of two-way equipment only accounts for 10 percent of Orbcomm's present business.

Until recently, the Magellan GSC 100 sold for over $1,000, with a $50 set-up fee and a monthly fee of $30. The units were not flying off the shelves — too high of a start-up cost said many industry experts.

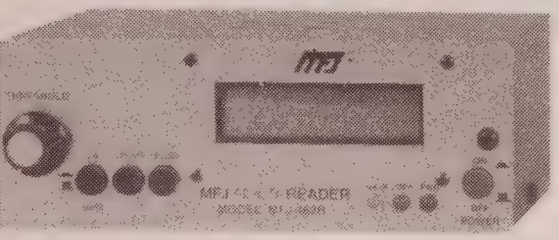
The prominent and largest marine electronic/marine hardware chain store with hundreds of outlets throughout the country, plus a one-inch thick catalog, West Marine, developed marketing strategy similar to TV dish systems and cellular telephone sellers: offer the equipment at almost giveaway prices, and build in a service contract. And the plan is working well because more GSC 100s are being registered for service than ever before. West Marine offers a huge catalog of electronics and other boating items.

For more information about the GSC 100 through West Marine, phone 800-262-8464, or look them up on the Web at <www.westmarine.com>. They have over 200 stores throughout the country, most carrying the GSC 100 at the $99 price.

If you absolutely can't travel to remote areas without some sort of satellite E-mail, this is one of the lowest priced systems on the air worthy of your consideration. ■

Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™



MFJ-462B
$179.95

Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

Then *watch* mysterious chrips, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR(FEC) turn into exciting text messages as they scroll across your easy-to-read LCD display.

You'll *read* interesting commerical, military, diplomatic, weather, aeronautical, maritime and amateur traffic . . . traffic your friends can't read -- unless they have a decoder.

Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqui News in Iraq -- all on RTTY.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

Printer Monitors 24 Hours a Day

MFJ's exclusive *TelePrinterPort*™ lets you monitor any station 24 hours a day by printing their transmissions on your Epson compatible printer.

Printer cable, **MFJ-5412**, $9.95.

MFJ *MessageSaver*™

You can save several pages of text in 8K of memory for re-reading or later review .

High Performance Modem

MFJ's high performance *phaselock loop* modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly improves copy on CW and other modes.

Easy to use, tune and read

It's easy to use -- just push a button to select modes and features from a menu.

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

Copies most standard shifts and speeds. Has *MFJ AutoTrak*™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, $12.95. 5¼x2½x5¼ inches.

No Matter What Warranty

You get MFJ's famous one year *No Matter What*™ *unconditional* warranty. That means we will repair or replace your *MFJ MultiReader*™ (at our option) *no matter what* for a full year.

Try it for 30 Days

Order an *MFJ-462B MultiReader*™ *from* MFJ and try it in your own setup -- compare it to any other product on the market regardless of price.

Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate active antenna . . . quiet . . . excellent dynamic range . . . good gain . . . low noise . . . broad frequency coverage."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz.

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with MFJ-1312, $12.95.

$129.95 MFJ-1024

Indoor Active Antenna

MFJ-1020B
$79.95

Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020 is a "fine value . . . fair price . . . best offering to date . . . performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as preselector with external antenna. Covers 0.3-30 MHz. Has Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

MFJ-1022
$39.95

Plug this new *compact* MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, $12.95. 3⅛x1¼x4 in.

Eliminate power line noise!

MFJ-1026
$169.95

New! ***Completely*** eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

MFJ-959B
$99.95

Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

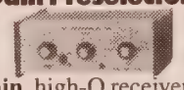
Dual Tunable Audio Filter

MFJ-752C
$99.95

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

High-Gain Preselector

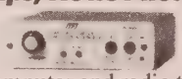
MFJ-1045C
$69.95



High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312, $12.95.

Receive *CW, RTTY, ASCII, Weather Maps, News Photos*

MFJ-1214PC
$149.95



Use your computer and radio to receive and display *brilliant full color* FAX news photos and incredible WeFAX weather maps. Also RTTY, ASCII and Morse code.

Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture saver.

Includes interface, easy-to-use menu driven software, cables, power supply, comprehensive manual and *Jump-Start*™ guide. Requires 286 or better computer with VGA monitor.

High-Q Passive Preselector

MFJ-956
$39.95

The MFJ-956 is a *high-Q* passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded pos. 2x3x4 inches.

Super Passive Preselector

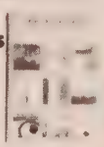
MFJ-1046
$99.95

New! **Improves** any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q *series tuned* circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband loss. Air variable capacitor with vernier. 1.6-33 MHz.

Easy-Up Antennas Book

How to build and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before. Antennas from 100 KHz to 1000 MHz.

MFJ-38
$16.95



MFJ 12/24 Hour LCD Clocks

MFJ-107B
$9.95

MFJ-108B
$19.95

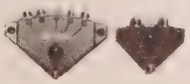
MFJ-105C
$19.95

MFJ-108B, dual clock displays 24 UTC and 12 hour local time *simultaneously*. **MFJ-107B**, single clock shows you 24 hour UTC time. *3 star rated* by *Passport to World Band Radio*!

MFJ-105C, accurate 24 hour UTC quartz *wall clock* with large 10 inch face.

MFJ Antenna Switches

MFJ-1704
$59.95



MFJ-1702C
$21.95

MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

MFJ-1702C for 2 antennas.

World Band Radio Kit

MFJ-8100K
$59.95 *kit*
MFJ-8100W
$79.95 *wired*

Build this *regenerative* shortwave receiver *kit* and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

Free MFJ Catalog

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Technical Help: 601-323-0549

•1 year *No Matter What*™ limited warranty •30 day money back guarantee (less s/h) on orders from MFJ

MFJ ENTERPRISES, INC.
Box 494, Miss. State, MS 39762
(601) 323-5869; 8-4:30 CST, Mon.-Fri.
FAX: (601) 323-6551; **Add s/h**

WEB: http://www.mfjenterprises.com

MFJ . . . the world leader in shortwave accessories

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Pop'Comm's World Band Tuning Tips

February 2000

This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes
0000	4960	Radio Federacion, Ecuador	SS
0000	9855	Radio Vilnius, Lithuania	
0000	11700	Radio Japan	
0000	11705	Radio Japan, via Canada	JJ
0030	15200	Radio France Int'l, via French Guiana	FF
0100	5025	Radio Rebelde, Cuba	SS
0100	7180	Voice of Russia	
0100	11710	RAE, Argentina	
0100	11830	Radio Anhanguera, Brazil	PP
0100	17815	Radio Cultura, Brazil	PP
0115	9745	HCJB, Ecuador	
0130	4830	Radio Tachira, Venezuela	SS
0130	5020	Caracol Quibdo, Colombia	SS
0130	6060	Radio Uno Service (RAI), Italy	II
0130	6458	AFRTS, Puerto Rico	
0130	11760	Radio Havana Cuba	SS
0145	7160	Radio Tirana, Albania	
0200	4915	Radio Cora, Peru	SS
0200	5890	HRMI, Honduras	SS
0200	6025	Radio Amanacer Int'l, Dominican Republic	SS
0200	6165	Radio Netherlands, via Bonaire	
0200	6674	Radio Super Nueva Sensacion, Peru	SS
0200	6898	Galei Zahel, Israel	HH (USB)
0200	9705	Radio Mexico Int'l	SS
0200	9737	Radio Nacional, Paraguay	SS
0200	9925	Croatian Radio, via Germany	
0200	11670	Radio Belarus Int'l	
0200	11725	Radio Romania Int'l	
0200	11735	Radio Orienal, Uruguay	irreg.
0200	11787	Radio Iraq International	AA
0230	3290	Radio Namibia	
0230	9570	China Radio Int'l, via Cuba	CC
0230	9725	Adventist World Radio, Costa Rica	SS
0230	9840	Radio Budapest, Hungary	
0245	4820	Radio Botswana	
0300	4828	ZBC Rado, Zimbabwe	
0300	4955	Radio Nacional, Colombia	SS
0300	4980	Ecos del Torbes, Venezuela	SS
0300	7450	Voice of Greece	
0300	9495	Radio Sweden	
0300	9655	YLE Radio Finland	
0300	11655	Voice of Turkey	
0300	11818	Broadcasting Service of Kingdom of Saudi Arabia	AA
0315	9780	Republic of Yemen Radio	AA
0330	4919	Radio Quito, Ecuador	SS
0330	4976	Radio Uganda	
0330	7125	Voice of Russia	
0330	7215	Trans World Radio, via South Africa	EE/Swahili
0330	7465	WRMI, Florida	
0330	11665	Voice of Turkey	
0330	13700	Voice of the Islamic Republic of Iran	AA
0330	15140	HCJB, Ecuador	SS
0345	4775	Trans World Radio, Swaziland	local/EE
0345	11645	Voice of Greece	
0400	5975	BBC, via Antigua	
0400	11980	Radio Vlaanderen Int'l, Belgium, via Bonaire	
0430	7210	Belarus Radio	BB
0430	9580	Radio Yugoslavia	
0430	9590	Radio Netherlands via Bonaire	
0430	9905	Swiss Radio Int'l	
0500	4820	La Voz Evangelica, Honduras	SS
0500	4960	Radio Vila, Dominican Republic	SS
0500	5003	Radio Nacional, Equatorial Guinea	SS
0500	5020	La Voix du Sahel, Niger	FF
0500	5995	Radio Canada Int'l	
0500	6055	Radio Exterior de Espana	
0500	6110	Radio Japan via Canada	
0500	7255	Voice of Nigeria	
0500	7445	Radio Rossi, Russia	RR
0530	4775	Radio Liberal, Brazil	PP
0530	4915	Ghana Broadcasting Corp.	
0530	4950	Radio Nacional, Angola	PP
0530	5055	TIFC/Faro del Caribe, Costa Rica	
0530	5077	Caracol Colombia	SS
0530	6015	Radio Austria Int'l, via Canada	
0530	6175	BBC, via Canada	
0530	7265	Sudwestfunk, Germany	GG

Scan Our Web Site

UTC	Freq.	Station/Country	Notes
0530	7400	Radio Bulgaria	BB
0530	9580	Africa Number One, Gabon	FF
0600	4885	Radio Clube do Para, Brazil	PP
0600	5047	Radio Togo	FF
0600	5100	Radio Liberia Int'l	
0600	6105	Radio Universidad de Costa Rica	SS
0600	6185	Radio Educacion, Mexico	
0600	7255	Trans World Radio, Monte Carlo	FF
0600	9900	Radio Minurca, Central African Republic	poss. inactive
0700	6130	CHNX, Canada	
0700	6140	Deutsche Welle, Germany	
0700	6190	Deutschlandfunk, Germany	GG
0700	11745	Voz Cristiana, Chile	SS
0715	7385	Trans World Radio, via Russia	various
0715	9440	Radio Sovakia Int'l	
0730	5020	Solomon Islands Broadcasting Corp.	
0730	9700	Radio New Zealand Int'l	
0800	3300	Radio Cultural, Guatemala	SS
0800	7335	CHU, Canada	time stn.
0800	9615	KNLS, Alaska	
0830	4825	Radio Cancao Nova, Brazil	PP
0845	7215	Adventist World Radio, Italy	II
0900	4827	Radio Sicuani, Peru	SS
0900	4845	Radio Cultura Ondas Tropicais, Brazil	PP
0900	9505	Radio Record, Brazil	PP
0930	5955	Caracol Vilavicencio, Colombia	SS
0930	6080	HCJB, Ecuador	Quechua
0930	6090	Caribbean Beacon, Anguilla	
0945	11635	Far East Broadcasting Co., Philippines	
1000	3280	La Voz del Napo, Ecuador	SS
1000	3339	Radio Altura, Peru	SS
1000	9710	Radio Australia	
1030	4779	Radio Cultural Coatan, Guatemala	local
1030	4870	La Voz del Upano, Ecuador	SS
1030	11715	Radio Korea Int'l, via Canada	
1100	3245	Radio Northern, Papua New Guinea	Pidgin
1100	3395	Radio Eastern Highlands, Papua New Guinea	Pidgin
1100	3925	Radio Tampa, Japan	JJ
1100	6150	Adventist World Radio, Costa Rica	
1100	7295	Radio Malaysia	
1100	11940	National Voice of Cambodia	FF
1100	15530	Radio Pakistan	
1100	17895	All India Radio	unk. lang.
1130	9540	Radio Nacional, Venezuela	SS
1130	11805	Radio Thailand	Thai
1200	4890	NBC, Papua New Guinea	Pidgin
1200	6100	Radio New Zealand Int'l	
1200	6150	Radio Singapore Int'l	
1200	9965	KHBN, Palau	
1200	11335	Radio Pyongyang, North Korea	KK
1200	11650	Far East Bc. Co./KFBS, Saipan	various
1200	11905	Sri Lanka Broadcasting Corp.	local
1200	12015	Voice of Mongolia	
1200	15165	Radio Tashkent/Uzbek Radio, Uzbekistan	UU
1200	15770	All India Radio	unk. lang.
1230	9525	Voice of Indonesia	II
1300	11900	Radio Canada Int'l, via China	
1330	13740	Voice of Vietnam	
1330	15240	Radio Sweden	
1330	15465	Radio Pakistan	Urdu
1330	17720	Radio Romania Int'l	
1330	17775	Radio Tashkent/Uzbek Radio, Uzbekistan	
1340	15395	UAE Radio, Dubai, UAE	
1345	17515	Vatican Radio	
1400	3685	China Radio Int'l, via Mali	
1400	11690	Radio Jordan	
1445	9355	Adventist World Radio/KSDA, Guam	
1500	9580	Radio Australia	
1500	9740	BBC, via Singapore	
1500	12010	Radio Mariya, Poland	Polish
1500	15150	Channel Africa	local
1500	15315	UAE Radio, Abu Dhabi, UAE	AA
1500	17620	Kol Israel	
1530	11640	Far East Broadcasting Assn., Seychelle Islands	
1530	15140	Radio Oman	AA
1600	11650	Radio Australia	
1600	13675	UAE Radio, Dubai, UAE	
1600	15540	Voice of Russia	
1600	17595	Deutsche Welle, Germany	
1800	11570	Radio Pakistan	Urdu
1830	13640	RTE, Ireland via BBC	
1830	15475	Africa Number One, Gabon	FF
1900	11560	Radio Kudirat, South Africa	
1900	11620	All India Radio	
1900	17660	Radio Havana Cuba	
1930	15190	Radio Pilipinas, Philippines	Tagalog
2000	9022	Voice of Islamic Republic of Iran	
2000	11605	Kol Israel	
2000	11715	Radio Algiers Int'l, Algeria	
2000	15300	RDP, Portugal	PP
2000	15345	RTV Marocaine, Morocco	AA
2000	15650	Kol Israel	
2030	11990	Radio Kuwait	
2030	12085	Radio Damascus, Syria	
2030	13650	Radio Canada Int'l	
2100	7415	Voice of America, via Botswana	
2100	11805	Radio Globo, Brazil	PP
2100	15415	Radio Jamahiriya, Libya	AA/EE
2100	17820	Radio Canada Int'l	
2130	13730	Radio Austria Int'l	
2200	9410	BBC, England	
2200	9695	Radio Rio Mar, Brazil	PP
2200	9870	Broadcasting Service of Kingdom of Saudi Arabia	AA
2200	9900	Radio Cairo, Egypt	
2200	15600	Radio Taipei Int'l, via WYFR	
2230	6050	Radio Nigeria, Kaduna	
2230	13670	Radio Vlaanderen Int'l, Belgium (via Bonaire)	
2230	15185	Swiss Radio Int'l	
2230	15345	RAE, Argentina	SS
2230	15565	Radio Vlaanderen Int'l, Belgium (via Bonaire)	
2300	10260	China National Radio	CC
2300	11700	Radio Bulgaria	
2300	12689	AFRTS, USA	USB
2300	15130	Radio Pyongyang, North Korea	
2300	15220	Radio Japan via Ascension Island	JJ
2330	5990	China Radio Int'l, via Cuba	
2330	7125	Radiodifusion Television Guinea	FF
2330	9275	Riksutvarpid (INBS) Iceland	II
2330	9735	Radio Oman	AA
2330	11530	High Adventure Radio, Lebanon	AA
2330	11780	Radio Nacional de Amazonia, Brazil	PP
2330	11830	Radio Romania Int'l	

product parade

Review Of New, Interesting And Useful Products

Police Call CD-ROM

Hollins Radio Data announces the long-awaited *Police Call CD-ROM* frequency guide, which includes features of all nine printed volumes of *Police Call*, completely updated and fully-searchable across all volumes.

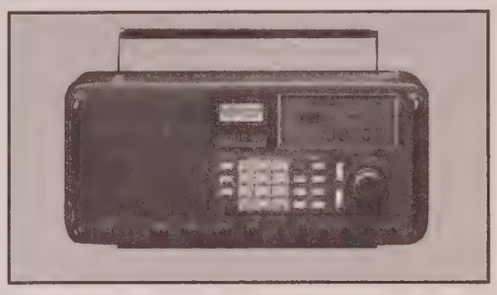
Regular users of the *Police Call* guides will recognize all the familiar sections: Public Safety licensees — many showing specific assignments — listed by location and cross-referenced by frequency; "*Beyond Police Call*" lists dozens of categories of radio users; talkgroup IDs for trunked systems; U.S. government frequencies, aircraft, aviation, and railroad channels; radio codes, maps; and, review lessons for both beginners and experienced hobbyists and professionals.

Designed by a radio team that included experts in both CD-ROMs and scanners, *Police Call CD-ROM* was perfected over a two-year period and not released until every design specification was met 100 percent. One of the most important features is search speed, which has amazed everyone who has tested the product.

Police Call CD-ROM may be purchased from select electronic stores, mail order firms, and select RadioShack dealers. The suggested retail price is $34.99. For more information, call 908-236-7110.

Grundig Satellit 800 Millennium Receiver

Grundig's newest addition to the hobby is the Satellit 800 Millennium, which covers 100 to 30 kHz, 87 to 108 MHz, and 118 to 137 MHz. AM, USB, LSB, and FM. features include three built-in bandwidths using electronically switched IF filters; 6.0, 4.0, and 2.3 kHz; synchronous detector for improved quality of AM and USB/LSB signals, minimizing the effects of fading distortion and adjacent frequency interference; selectable AGC in fast or slow mode; separate bass and treble tone controls, FM stereo with headphones or external amplified stereo speakers; multiple audio outputs (line level output for recording, stereo headphone output); large multifunction LCD panel display of



The new Grundig Satellit 800 Millennium features 70 programmable memories.

operating parameters; analog signal strength meter; digital frequency display to 100 Hertz accuracy on AM, SW, and VHF aircraft bands; multiple tuning choices (direct frequency entry, pushbuttons, and tuning knob); 70 programmable memories; memory scan feature, dual clocks, dual programmable timers, auto backlight shutoff to conserve battery life, and low-battery indicator.

The receiver includes a 110-Vac adapter (switchable to 220 Vac) to provide 9 Vdc@1 amp. It also operates from six "D" cell batteries (not included).

The Satellit 800 has a large four-inch receive speaker and also provides an external speaker output of one-watt each into two, four-Ohm speakers with 9 Vdc supply voltage. The headphone jack is 1/8 inch stereo/mono.

The new Grundig receiver features an approx. 57-inch telescoping whip antenna and ferrite rod antenna and external antenna inputs.

Specifications include: Sensitivity — AM (10dB S+N/N) Less than 2.0uv, 0.1–30 MHz; (1000 Hz 30% Mod) Less than 4.0 uv, 118–137 MHz. Selectivity — SSB, AM 6 kHz @ -6dB less than 12 kHz @ -60dB .4 kHz @ -6dB, less than 9kHz @ -60dB 2.3 kHz @ -6dB, less than 5 kHz @ -60dB with ceramic filters. IF rejection is greater than 80 dB, 55.845 MHz, and greater than 80dB, 455 kHz.

Dimensions (HWD) are 9 1/4" x 20 7/8" x 8 1/2" and weight is 14.55 lbs. For more information on the new Grundig Satellit 800 Millennium, contact Lextronix at (U.S.) 800-872-2228 and (Canada) 800-637-1648. Suggested retail price on the radio is $699.95 and Canadian $899.95. Visit their Website at http://www.grundigradio.net for more information.

New Air Band Receiver

Hamtronics, Inc., announces their new receiver module, R121. This commercial-grade receivers operates in the 118–137-MHz air band and has excellent sensitivity and selectivity. It uses triple-tuned circuits in the front end and dual filters in the IF with steep skirts for good adjacent channel selectivity. Low-noise FETs in the front end provide good overload resistance and 0.2uv sensitivity.

In addition to being a good single-channel monitor receiver, the R121 has two utility modes which can be activated and programmed with a dip switch. The first allows a pilot to turn on airport runway lights on approach by clicking the mic button three, five, or seven times to select the intensity of lighting. After a predetermined delay, the lights automatically shut off again. The second utility mode is automatic detection of downed aircraft. The receiver can be used to monitor 121.5 MHz and trip an alarm if an ELT remains on the air longer than a programmed length of time. It can be tied into an FM repeater for amateur and CAP groups involved in search and rescue. An S-meter output allows the receiver to be used as a portable search tool.

The R121 receiver module is available wired/tested for $209. It may also be purchased in a rugged cabinet for $299. For more details, see their Website at <http://www.hamtronics.com>, which includes their entire catalog of VHF/UHF transmitters, receivers, repeaters, converters, preamps, and accessories. For a printed catalog, write to Hamtronics, Inc., 65-D Moul Road, Hilton, NY 14468-9535, or E-mail them at <jv@hamtronics.com>. Please tell them you read about it in *Popular Communications*.

Scanner Modifications And Antennas

Whether you're scanning for valuable emergency information or just out of curiosity, you want to get the most out of your equipment. But if you think your straight out-of-the-box scanner is working to its fullest potential, think again. *Scanner Modifications and Antennas* will

BY HAROLD ORT AND R.L. SLATTERY

teach you how to handle sensitive components, create dedicated search banks, increase the speed of your scanner, work safely on components, eliminate shock hazards, track a channel's usage, improve the sound on a tinny PRO-43, build an easy scanner amplifier, "fix" an apparently dead nickel-cadmium battery, design an antenna the easy, math-hater's way, and much more. You'll find information here on antennas, circuits, and tricks that author Jerry Pickard has learned from experts, and odds and ends that came from pure serendipity. In every case, Pickard has written the instructions so that anyone who can determine the hot end of a soldering iron can modify his or her scanner.

We liked Pickard's book a lot and think you will too. It's 176 pages in softcover and the retail price is $20, order number ISBN 1-58160-041-0. Contact Paladin Press at P.O. Box 1307, Boulder, CO 80306 or phone 303-443-7250.

New Communications Headphones From MFJ

They're $19.95 lightweight and perfect for amateur radio and shortwave radio listening. Each earphone has individual volume/ bass controls and they're great for all modes; SSB, AM, FM, data, and CW.

With a padded headband and ear-cushioned design, the high-performance headphones include a gold-plated plug and cord. Frequency response of the new MFJ headphones is 100–24,000 Hz. MFJ has even included a free 1/4-inch phono adapter. For more information, contact MFJ Enterprises at 800-647-1800, FAX 601-323-6551 or E-mail them at <mfj@mfjenterprises.com> and be sure to check out their Website at <http://www.mfjenterprises.com>.

Plagued By Noise?

If you've spent more than 10 minutes listening — or trying to listen — to your radios, you know about frustrating power line noise. Now there's a way to track and locate the intermittent noise coming from leaky insulators, loose hardware and corroded ground lines quickly! MFJ has done it again with their brand new MFJ-852 superhet AM receiver with noise field strength meter. This little handheld meter lets you walk or drive around the neighborhood to search out noise problems that are driving you crazy. You can also pinpoint faulty dimmers, electric fence arcs, sparking power equipment, neon signs and much more. Let equipment owners hear how troublesome their noise is and see first-hand what's causing the problem.

Complete with a telescoping, direction-finding dipole antenna which is balun isolated and optimized, the MFJ-852 gives you a sharp, clearly defined null for accurately pinpointing noise sources. It operates in the 135 MHz region where corona and arcing is far more localized. With 0.3uv sensitivity and wide-range AGC, you get an ultra wide range noise level meter — over 70dB!

You can also plug in headphones and hear the noise you're tracking, or plug in a tape recorder. With your tape, the power company may figure out what's causing the noise and know how to fix the problem before they even come out to your neighborhood, and if you've done most of the detective work, they're more likely to cooperate. The new $99.95 MFJ-852 is a compact (HWD) 4" x 2 7/8" x 1 1/2" and uses a 9 volt battery.

For more information, contact MFJ Enterprises, Inc. at 800-647-1800. ■

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FEATURES

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With Scancat Gold for Windows "SE," your spectrum never looked so good! Load virtually "any" database and Scancat "SE" will examine your database, plot each and every frequency, no matter what the range...and "paint" the entire analysis on your screen.

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- By Number of hits per frequency in a "histograph".
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- Scan VHF & HF Icom's Simultaneously
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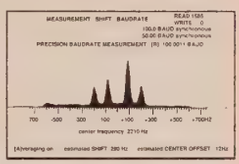
HOKA CODE-3 GOLD

"The Standard Against Which All Future Decoders Will Be Compared"

Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amtor you'll know - but what about the many other signals?

There are some well known CW/RTTY Decoders but then there is CODE-3 GOLD. It's up to you to make the choice, but it will be easy once you see CODE-3 GOLD. All units have an exclusive auto-classification module that tells YOU what you're listening to AND automatically sets you up to start decoding. No other decoder can do this on ALL the modes listed below - and most more expensive decoders have no means of identifying ANY received signals! Why spend more money for other decoders with FEWER features? CODE-3 GOLD works on any IBM compatible computer with MS-DOS with at least 640kb of RAM, and a VGA monitor. CODE-3 GOLD includes software and a complete audio to digital FSK converter.



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• Sitor CCIR 625/476-4 ARQ - Navtex ★	• Twinplex	• FEC-A FEC100A/FEC101	• 4 special ARQ & FEC systems: TORC-10/11, ROU-FEC/ RUM-FEC, HC-ARQ (ICRC) and HNG-FEC
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• Hellschreiber-Synch/Asynch ★	• SWED-ARQ-ARQ-SWE	• Sitor • RAW (Normal Sitor but without Synch.	
• ASCII ★	• ARQ-E/ARQ1000 Duplex	• ARQ6-70	
• Pactor ★	• ARQ-N-ARQ1000 Duplex Variant	• Baudot F788N	
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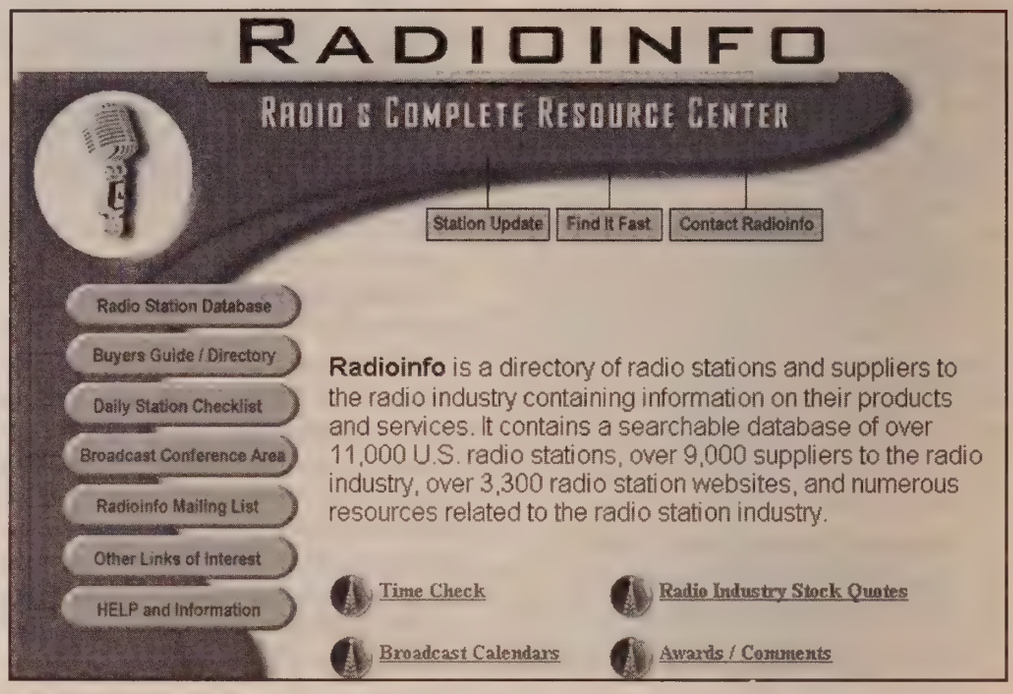
radio & the internet

Pop'Comm's Cyber Sleuth Checks Out Online Resources

HOT Web Surfing Tips, And Great Radio Sites!

Most of the URLs we show will take you to a specific page within a website specific to the information provided here. By the time you visit that site, the Webmaster could have made changes resulting in your receiving a "404 File Not Found" error. If that happens, just back up to the 3rd forward slash (/) from the left and try again. In most cases, you should arrive at the site's main page where you can look for the desired information. If a link to a site's main page is not present on any of the pages you visit, I encourage you to use this procedure since many sites have outstanding resources available other than what's highlighted here. The results of most online search engines will also point to specific pages, so you may want to keep this tip in mind when surfing.

For example, using the above technique, <http://www.popular-communications.com/links.htm> becomes: <http://www.popular-communications.com/.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Station Update
Find It Fast
Contact Radioinfo
Radio Station Database
Buyers Guide / Directory
Daily Station Checklist
Broadcast Conference Area
Radioinfo Mailing List
Other Links of Interest
HELP and Information
Radioinfo is a directory of radio stations and suppliers to the radio industry containing information on their products and services. It contains a searchable database of over 11,000 U.S. radio stations, over 9,000 suppliers to the radio industry, over 3,300 radio station websites, and numerous resources related to the radio station industry.
Time Check
Radio Industry Stock Quotes
Broadcast Calendars
Awards / Comments

This site is designed primarily for broadcasting professionals, but it's also ideal for medi-umwave enthusiasts.

MW DXing And A LOT More

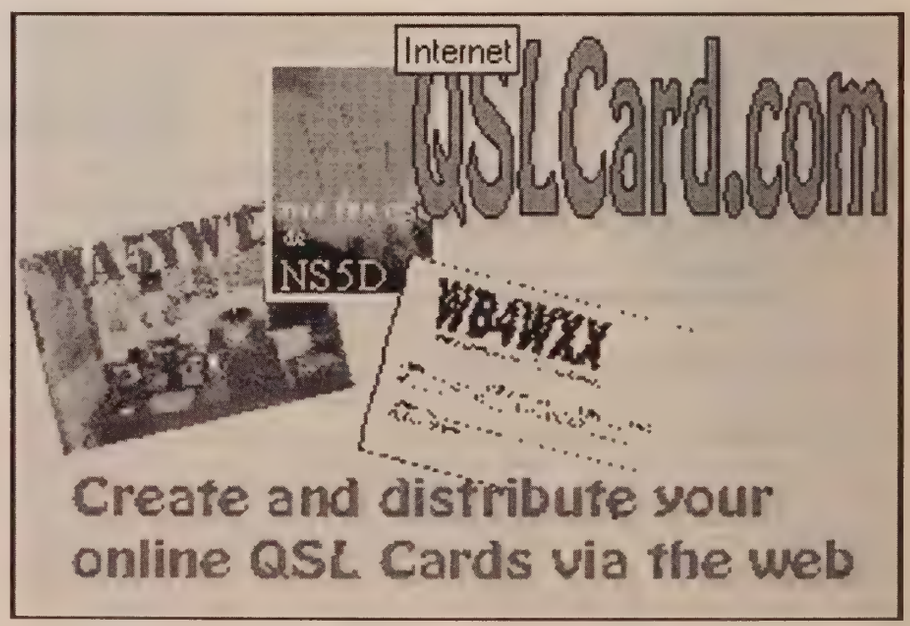
"Hey Eric, looks like someone beat you to it." That was subject of a recent E-mail from one of my good friends. He was referring to a program I'm writing for the MW DXing crowd called "Where's That Station." It turned out to be a function similar to one element of my program but available online at "RadioInfo — Radio's Complete Resource Center."

Designed primarily for broadcasting professionals, RadioInfo is a directory of radio stations and suppliers to the radio industry containing information on their products and services. It contains a searchable database of over 11,000 U.S. radio stations, over 9,000 suppliers to the radio industry, over 3,300 radio station websites, and numerous other resources related to the radio station industry.

The online function similar to that of my program is RadioInfo's searchable database of AM/FM radio stations. One of the most difficult parts of DXing is figuring out WHERE to send your QSL contact letter once you've snagged that prize transmission. At RadioInfo, you just plug in the station's call letters and bingo, instant contact information. Unlike the FCC database that provides the licensee's address (which might be far removed from the station itself), RadioInfo provides the *actual* station addresses. Their database of over 3,300 radio station Websites is also a nice plus. Be sure to visit this outstanding site, <http://www.radioinfo.com/>.

Electronic QSL Cards

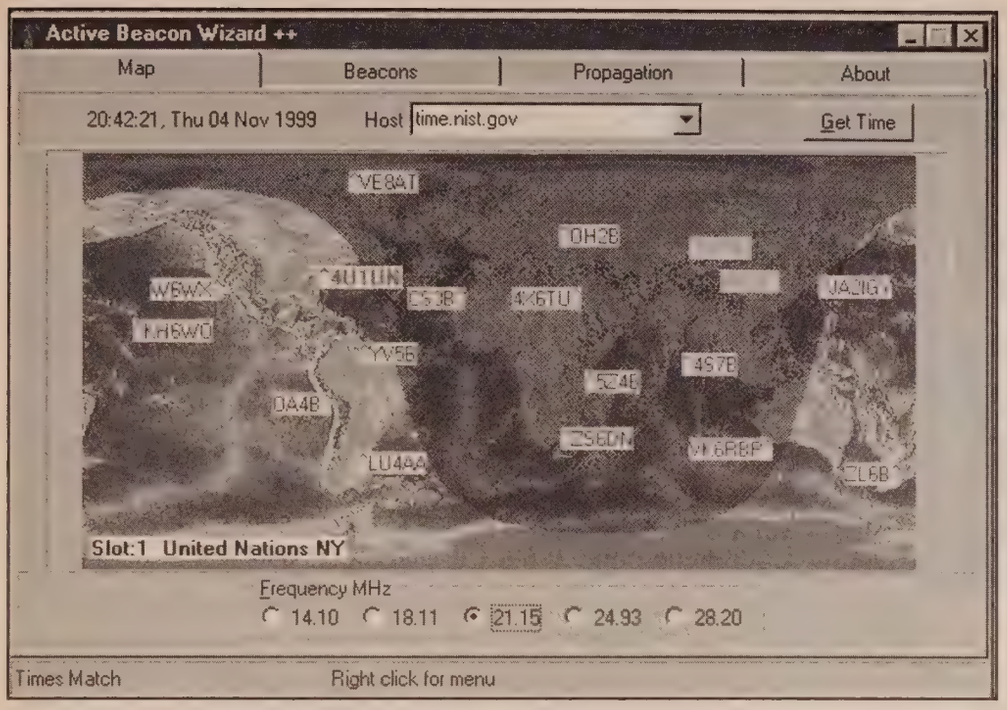
While I'm thinking of QSL cards, there's a relatively new online service that looks promising. Using a technique



Electronic QSL cards? Create, send, and receive them for free.

BY ERIC FORCE <eric@dobe.com>

Scan Our Web Site



Interested in solar conditions? Check out the Active Beacon Wizard++.

similar to that of the popular "Online Postcards," QSLCard.com provides the means to create, send, and receive electronic QSL cards — for FREE including stock digital images for your card. Save postage, printing costs, and a tree or two. Take a peek at <http://www.qslcard.com/>. Thanks to E. C. Van Der Eecken, K6QGH, for the heads up on Radioinfo.com and QSLCard.com.

SWLs: Check Out Active Beacon Wizard ++

Active Beacon Wizard ++ is one slick puppy from Kangaroo Tabor Software that can take a lot of frustration out of your SWL activities. First, some background. The NCDXF (Northern California DX Foundation, Inc.), in cooperation with the IARU (International Amateur Radio Union), constructed and operates a worldwide network of high-frequency radio beacons on 14.100, 18.110, 21.150, 24.930, and 28.200 MHz. These beacons help both amateur and commercial high-frequency radio users assess the current condition of the ionosphere. In other words, in just three minutes of listening for the beacons (the time to make once complete cycle), you can find out where a particular band is open or which band has the best propagation to a particular part of the world. Here's a little more detail from the program's description as shown at the website: "ABW++ displays the currently active NCDXF beacon and the solar terminator over a topographic map. Tools for setting the system clock, via the Internet, are also provided. ABW++ will download and display up to fourteen selected Space Environment Center (SEC) solar reports and forecasts. In addition, ABW++ provides the comprehensive SEC glossary of solar terrestrial terms. The glossary and report explanations are provided in Windows-help-file format and are useful for interpreting the propagation reports and forecasts."

"ABW++ also features a beacon-CW simulation mode. This function is selectable and, on machines with a sound card, causes CW sound to be generated for the currently active beacon. It is intended for demo and training."

Active Beacon Wizard ++ is free to try, but the author requests a $10 contribution if you find it useful. I think you will! Visit <http://www.taborsoft.com/softstuff/ABW_Page.html>.

And for more information on the NCDXF/IARU International Beacon Network, visit <http://www.ncdxf.org/> or <http://www.iaru.org/>.

Planning A Homebrew Project?

If you plan to build or repair anything electrical, you will eventually need to solder or desolder something. "The Basic Soldering Guide" website is the place to go if you're a little queasy about firing up that iron. This UK resource, complete with detailed color photographs, was condensed from the fully-illustrated series "Build Your Own Projects," written by Alan Winstanley and published in *Everyday Practical Electronics* magazine, from November 1996 to March 1997. It's a super resource and must-visit site for the beginning electronics hobbyist. Visit <http://www.epemag.wimborne.co.uk/solderfaq.htm>.

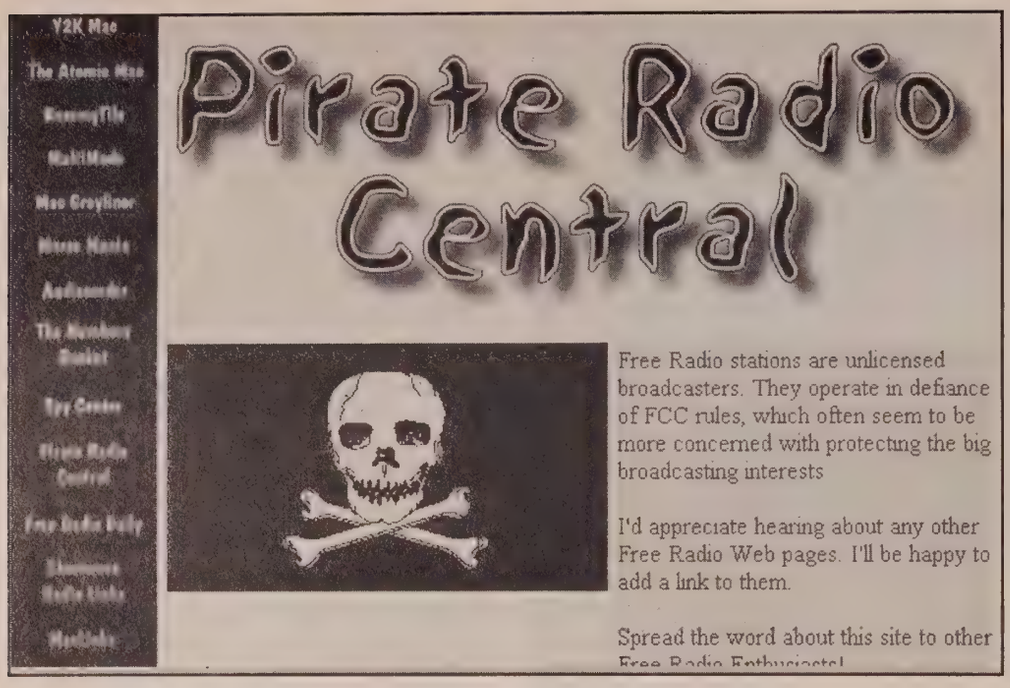
Spy Stations On Your Mind?

"59372 98324 19043 78903 95320 . . ." The mechanized female voice drones on and on. What have you stumbled on? Instructions to spies? Messages exchanged between drug dealers? Deliberate attempts at deception and misinformation? Maybe all of the above. You'll want to check out the latest at Blackcat Systems' Spy Centre. Be sure to visit their Spy Numbers Station Database — it's the quickest and easiest way to find out what stations are being heard, and how you can hear them. Visit <http://www.blackcatsystems.com/numbers/index.html>.

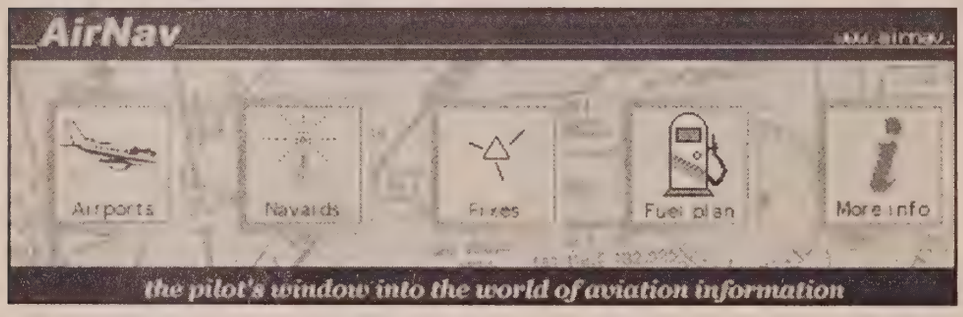
Pirate Radio

Pirate Radio Central is another offering from Blackcat Systems and provides an excellent starting point for your research into the world of Pirate Radio. You'll find Pirate Radio Central at <http://www.blackcatsystems.com/radio/pirate.html>.

While we're on the topic of Pirate Radio, The Association of Clandestine (Radio) Enthusiasts is another resource to explore. Quoting their introductory paragraph: "The A*C*E is an association of individuals who find pirate, clandestine, covert and micro-casting communications a very interesting part of their radio listening hobby. The primary existence of the club revolves around the publication of a monthly bulletin called the *A*C*E Newsletter*. The bulletin reports on the activities of pirate, clandestine, covert, micro-casting, and other unexplained broadcasts. The A*C*E readers are provided with other available materials concerning motives, explanations, and theories behind these various broadcasts and broadcasters. The A*C*E as an organization, does not encourage, support, or condone any illegal activity, we simply seek to understand the nature and reasoning behind such broadcasts. If your interests include listening to pirate radio stations, clandestine broadcasts, covert

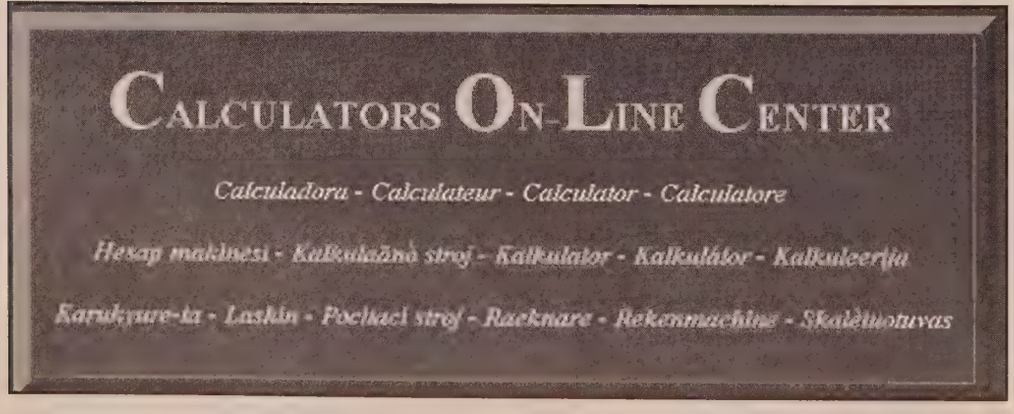

Pirate Radio Central
Free Radio stations are unlicensed broadcasters. They operate in defiance of FCC rules, which often seem to be more concerned with protecting the big broadcasting interests
I'd appreciate hearing about any other Free Radio Web pages. I'll be happy to add a link to them.
Spread the word about this site to other

Check it out for great pirate radio information.



AirNav, by Paul Santos, has lots of free detailed info on airports in the USA.

The best resource for longwave information is the Longwave Club of America's site.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There's even an entire subsection at this site devoted to electronics.

communications, or AM & FM microcasting, The *A*C*E Newsletter* is for you." Full details are available at <http://www.frn.net/ace/>.

Longwave, Beacons, And Aero Info

One of the neat things about writing this column is the exposure to areas of radio communication I'd not normally investigate. Longwave was one of them — until I visited The Longwave Club of America's Website. I'm a complete novice in the Longwave arena, but this site sure impressed me as an excellent overall resource for this fascinating hobby. I'll definitely be going back to learn more. Check it out <http://www.lwca.org/>.

If you're seeking beacon frequencies and IDs, you'll love these online resources. LWCA member Jack Sippel (KUØKU) has compiled a "U.S. LF Beacon Database" that should be of considerable interest. Covering over 2,000 beacons in the U.S., his downloadable databases are available MS Excel and Comma Delimited formats. Some Canadian beacons are also listed at <http://www.mindspring.com/~longwave/aero_db.htm>.

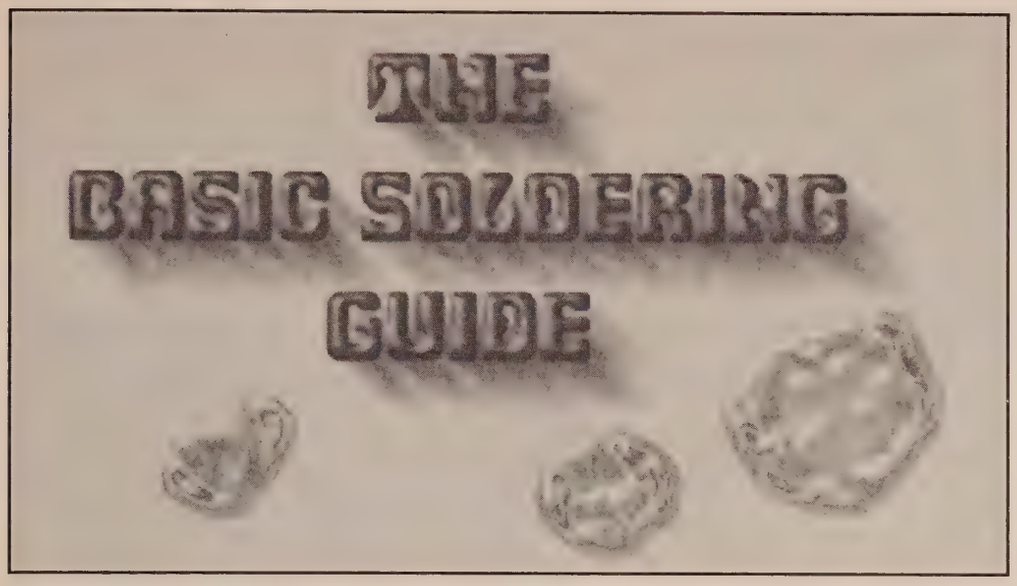
For Canadian and Greenland NDB's (Non Directional Beacons), Pierre Thomson, KA2QPG, maintains a comprehensive, searchable (and downloadable), database of these beacons. Visit <http://frodo.bruderhof.com/ka2qpg/>.

AirNav, by Paulo Santos, provides free detailed aeronautical information on airports and navigational aids in the USA. Of particular interest to both pilots radio hobbyists is Paulo's "NAVAID INFORMATION" section, where you can obtain detailed technical and operational information about radio navigation aids to aviation (VORs, NDBs, TACANs, marker beacons, etc.) Check out <http://www.airnav.com/>.

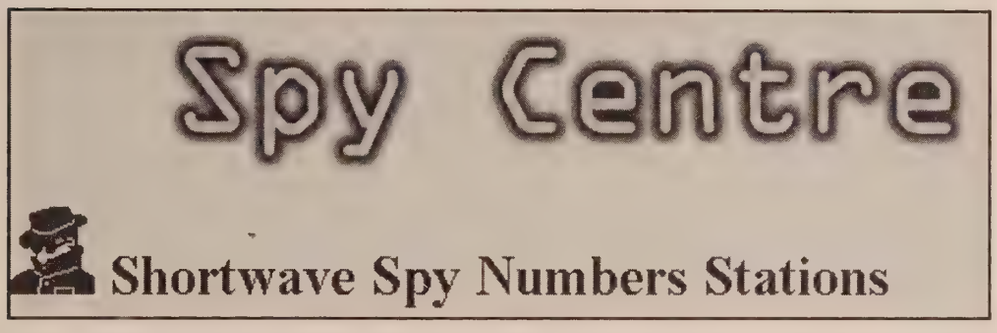
9,640 Calculators — Online!

Here's a resource that boggles the mind. It's Ken Martindale's CALCULATORS ON-LINE CENTER. Regardless of what computation you need to make, you'll find an online calculator to fill the bill. For the Radio/Electrical/Electronics enthusiast, an entire subsection has been devoted to electronics and electrical engineering.

And, Calculators Online is only the tip of the iceberg. It represents but a small



Here's a great place to get soldering help.



Want to tune in the spys? Check out Blackcat Systems' Spy Centre on the Web.

fraction of Ken's total site: "Martindale's — The Reference Desk." Be sure to visit Ken's main page while there. Visit <http://www-sci.lib.uci.edu/HSG/RefCalculators.html>.

Note: This is a University Computer system, so response times will probably be quite sluggish during the day when students are using the system. My guess for the best times to access this great resource would be from about 6 p.m. to 7 a.m. EST. While I have Ken's site bookmarked, I've found that bookmarking specific calculators (that reside on other sites) can save considerable time for repetitive calculations.

Antennas And Radio Propagation

Buckmaster Publishing, producers of a variety of amateur radio products including the HamCall™ CD-ROM, has made a scanned copy of this classic Army TM available online. Quoting from their site: "This classic Technical Manual presents in one volume most of the basic information covering antennas and propagation of interest to radio amateurs. Some of the information may be superseded by

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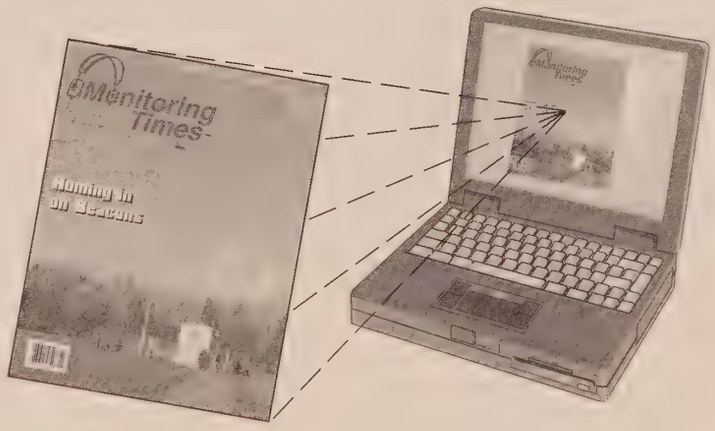

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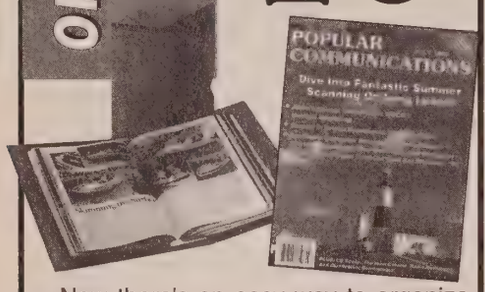

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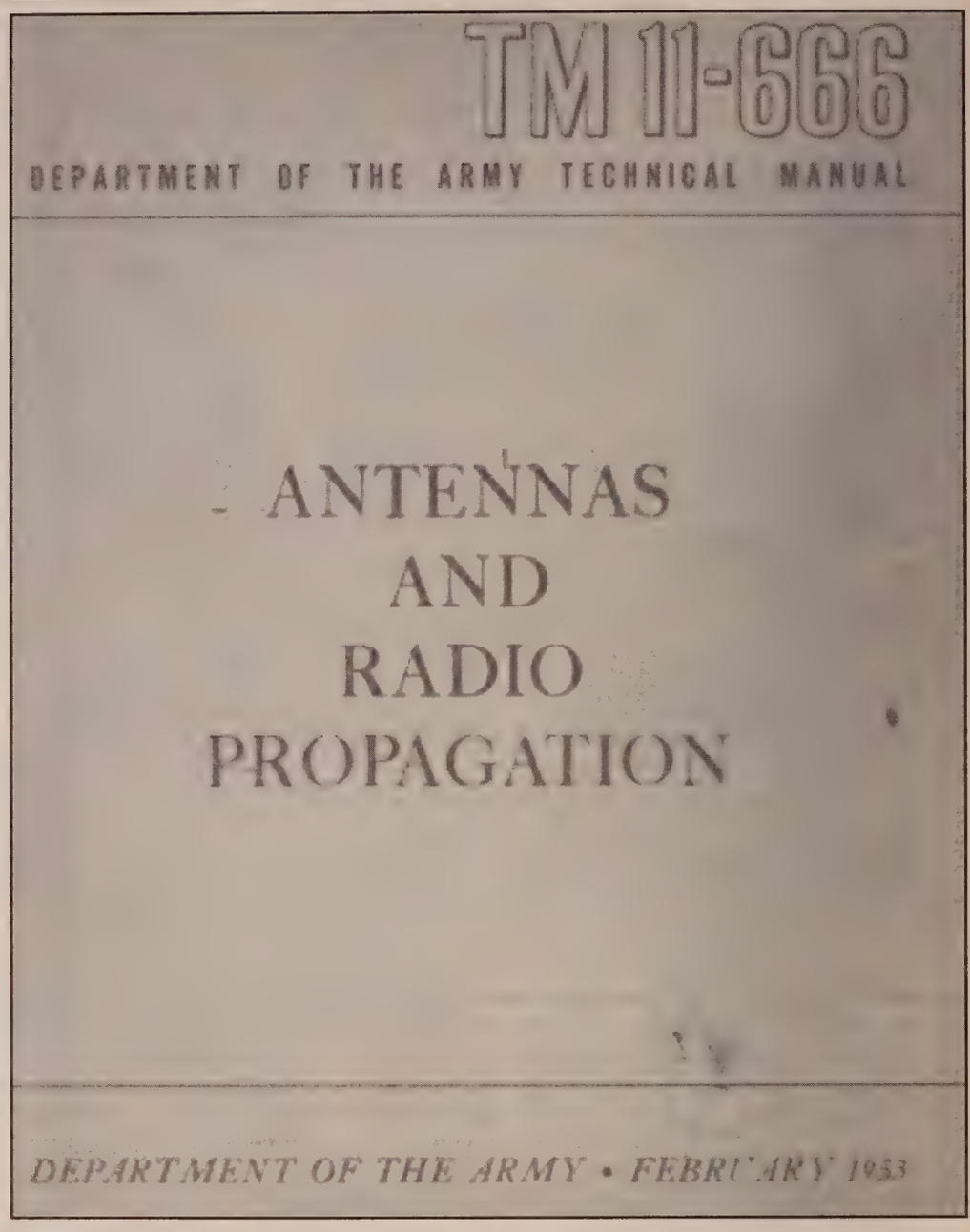


It's 236 pages long and a classic Army technical manual. You can check it out at Buckmaster Publishing's site and even download the entire TM.

research done since this document was published, but the basics remain true and tested over many years. It is presented here because it is not currently in print and has been weeded from many libraries because of its early publication date. We feel that it has a lasting contribution to make . . ."

See it at <http://www.buckmaster.net/hammain.html>.

Note: TM 11-666 is 236 pages long. Unfortunately, as currently presented online, each page of the manual is quite large (in bytes). Consequently, be prepared for some long waits while each page loads. If you are using a 28.8 modem connection, figure on about two minutes per page or upwards of eight hours to display the entire manual. Regardless, a tip of the old Sleuth's hat to Buckmaster Publishing for making this priceless resource available online. For those of you not familiar with the process, let me assure you that countless hours, over a period of many days (weeks?) was probably expended by Buckmaster to share this FREE resource with you. Thank you Buckmaster Publishing!

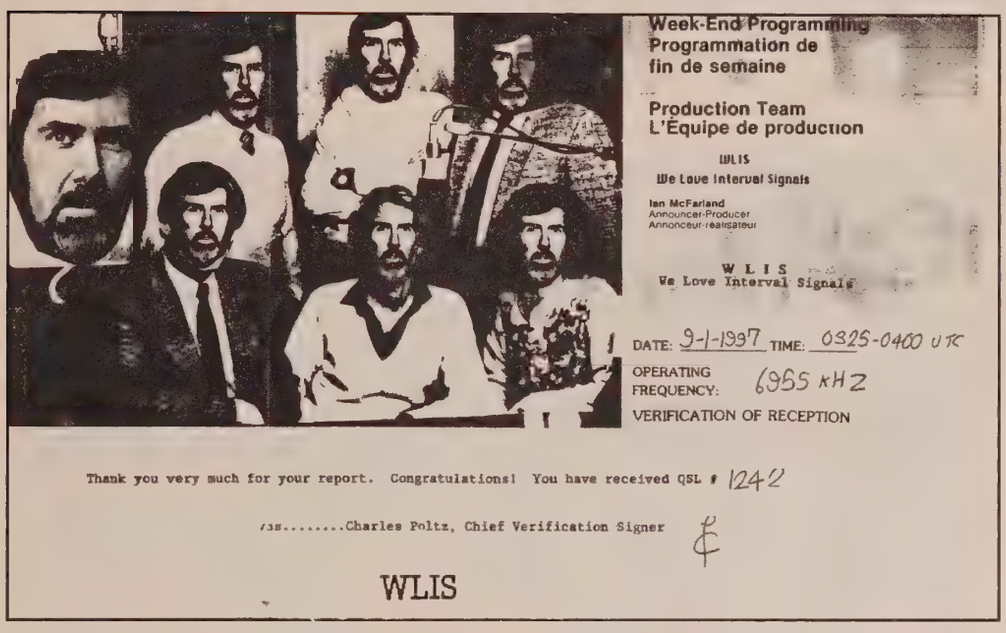
If you have a copy of TM 11-666 and could share it for a short time, please contact me. I'd like to try my hand at creating a faster loading version of this classic manual.

Thanks for joining me on this month's journey into cyberspace. Be sure to visit the *Pop' Comm* Website at <http://www.popular-communications.com/> for the latest greatest and don't forget to E-mail me those suggestions for resources you think should be shown here. ■

the pirate's den

Focus On Free Radio Broadcasting

Strange On-Air Antics YOU Can Hear



WLIS is back. According to what they say on the air, they've been silent for a while.

Stand back! Here come the logs. Are yours here? If not, what are you waiting for?

KPIM, 6955 USB at 0045 with commentary on the accumulation of dust in the apartment. Reports should go to P.O. Box 24, Lula, GA 30554. Also heard at 0245 on **6950** asking for reports. (Jerry Revis, TX) Heard on **6954.6** at 0420 with stories of Mr. McGregor who travels back in time. (David Lopez, CA)

RCBN/Radio Bob, 6950 USB at 0140 with country music, commentary on pigs. Same address as KPIM. (Revis, TX) 0251 on **6955 USB** with genuine test broadcast, (Bill Finn, PA)

WYHP, 6955.9 at 1733. Steve Brownyard with music from the Offspring. Gave his E-mail address. (Lopez, CA) **6950 USB** at 0018. Also at 0234 with WHYP characters and clips from CBC Radio 740. Also at 0044 with something about living high on the hog. Another log at 2300 with guest Mr. Brownyard Howard. Repeat show the next day at 1220. Also heard at 2115 the following day. Still another repeat noted at 2335. Heard at 0144 with weather reports, hum-dee-dum-dums, and "yea, yea, yea." Also at 0204 with country music — a repeat of an old show. (Finn, PA) **6952 LSB** at 0107 with hard rock, '60s rock, techno-pop, rap, and "Blue Spanish Eyes." Off at 0157. (Dave Jeffery, NY)

Radio Cobain at 0325 (frequency?). "Smells Like Teen Spirit" song with laughing and lyrics looped in-between. (Lopez, CA)

Betty Boop Radio, 6955.4 at 0340. Providence mail drop given. (Lopez, CA) 2115 with what sounded like a Monty Python skit. (Finn, PA)

Lounge Lizard Radio, (frequency?) at 0455 with first anniversary show and offer of special QSL from Providence drop. (Lopez, CA)

WFMQ, 6955 USB at 1507. "Keep 'Em Separated" song and shouted ID. Also at 2322 with Electric Light Orchestra, IDs. (Finn, PA)

RMWW, 6955 at 2200 with high-pitched voice mentioning Blue Ridge maildrop. They now want to be known as super pirate RMWW. Also at 2243 with M.C. Hammer and others. On **6965** at 1615 with TV theme songs and at 1625 with Dr. Tornado playing music and trying to tune the transmitter. (Finn, PA)

Radio Bingo. 6955 USB with Jimmy the Weasel and other voices, mention of orange cards, and a possible bingo with Jimmy singing/swearing in the background. (Finn, PA)

WSRR (?) Solid Rock Radio, 6955 USB from 1244 with a test, mention of Solid Rock Radio, then I lost the signal. (Finn, PA)

WMPR, 6955 at 2130 with techno-dance music and ID as WMPR-1030. (Finn, PA)

KMUD/Black Rock Radio, 6952 at 0241 with Morse code IDs, Native American talk over music. Again a couple of days later at 0039 with air checks from old mediumwave and pirate stations. "From the depths of the Northern Mojave Desert near Death Valley." They also said they were broadcasting on FM as KPOP. Another day at 0103 with instrumental music, including Middle Eastern. "From the Kingdom of Inyo" (county). (Randy Ruger, CA)

MIDI Radio, 6950 USB at 0319 with Elton John songs played on a synthesizer. (Ruger, CA)

JRR, 6955 USB at 2322 with Monkees and Stones songs. Then wiped out by a station playing Doors music. (Finn, PA)

Voice of Captain Ron Shortwave, 6955 USB at 2218 with Boogie Oogie Oogie, ID as "Voice of Captain Ron Shortwave," and other music from Eurythmics, GNR, Offspring, and Stones. (Finn, PA)

WLIS, 6955 USB at 0040 with short broadcast, mentioning of listener names and taking requests. They gave their E-mail address as wlis@beer.com. Also heard at 0013 with IS and mentioning they hadn't been on the air in a few months. Jack Boggan mentioned a few names. Bram Stoker ID. Next day at 0111.(Finn, PA) Noted on various days at 1938, 2335, 0037, 0109, each time asking for interval signal requests and dedications. Also at 0117 with march music and mentioning "oldies but goodies." (Lee Silvi, OH)

Radio Free America, 6955 at 2340 following a WLIS broadcast. Same again at 0115. (Silvi, OH)

Unidentifieds — Normally there's little or no room to include these as there are often so many of them and, often, too few clues to aid in an ID. I'll make an exception here because this one is from a new reporter.

6955 USB at 2330. A song, which turned into a chorus of unknown people singing "On Top of Old Smoky," then several other songs until sign-off at 2353. No call letters or other ID. Strong signal but very poor audio. (Peter Nelson, MI)

Keep those reports flowing my way and don't forget to send copies of your recent pirate QSLs so we can feature them right here! I appreciate all your great input. See you next month! ■

BY EDWARD TEACH

Scan Our Web Site

product spotlight

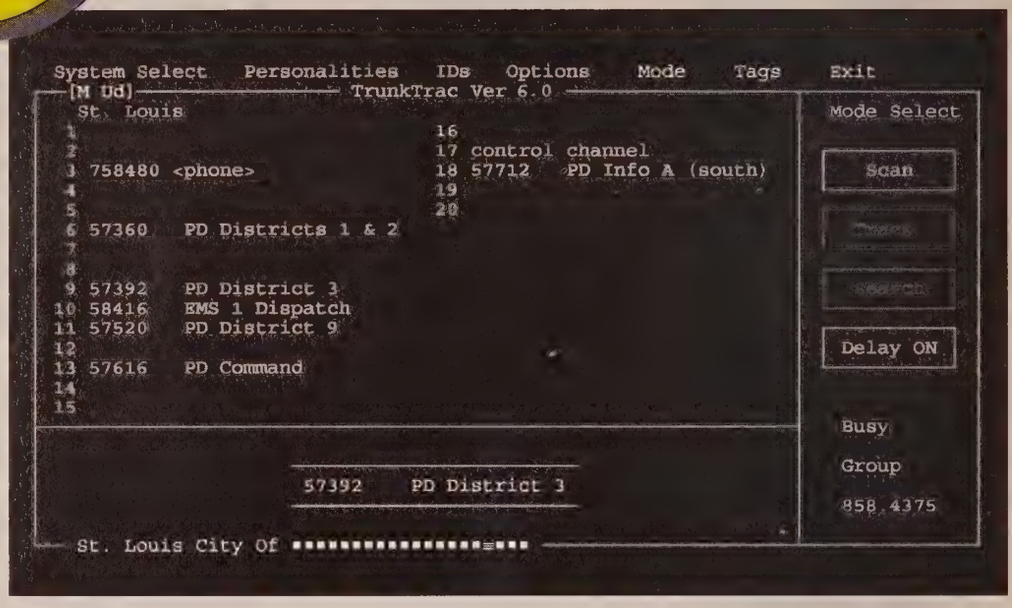
BY KEN REISS
<Armadillo1@aol.com>

POP'COMM REVIEWS PRODUCTS OF INTEREST

TrunkTrac For Optocom!

TrunkTrac is a trunk-following system based on the same technology as the Uniden Trunktracker scanners. You may recall some time back in a "ScanTech" column, we discussed a system that required a board be installed in your computer to interpret the data channel and follow up to four systems at once. With the introduction of the Optocom scanner from Optoelectronics, Synthecom has released a new version of TrunkTrac that can follow the data channel using Optocom's bit-banger feature without that board. So, now the system can be run on a laptop or other computer without an ISA slot available.

TrunkTrac's system requirements are fairly modest. It works best in a DOS mode, rather than a DOS window from another operating system, but only requires a 286 or faster processor. I was able to locate a 486 machine for less than $75 that works great. I have run it on a 386 computer and that seemed to run just fine too. You'll probably want this application running quite a bit, so having a dedicated computer is preferable anyway. One COM port is all that's needed and an Optocom receiver.



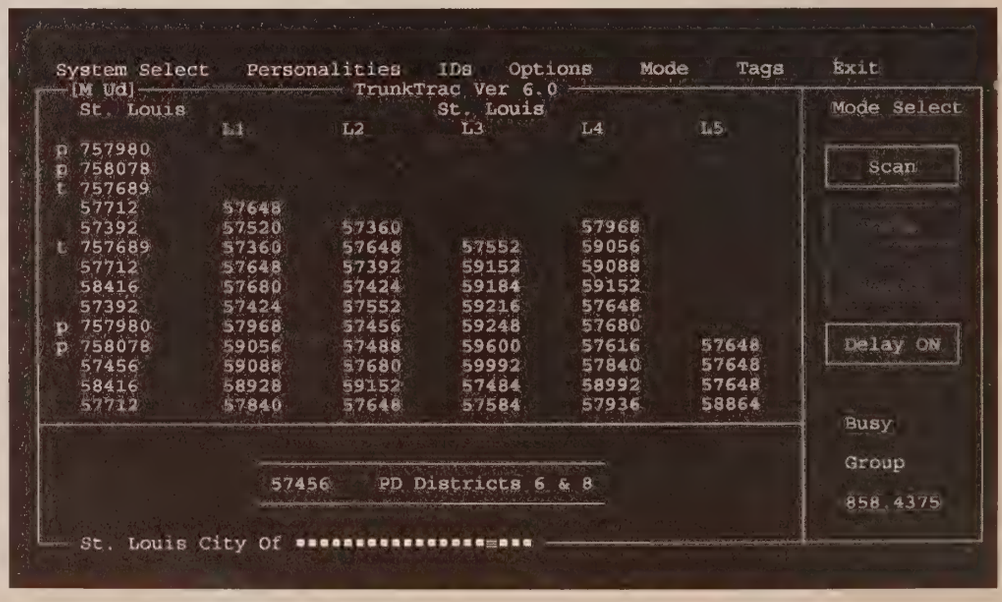
The channel screen view gives the most detailed information on a single system. Full alpha tags are shown for any channel that's active in the system, as well as the channel that's currently being monitored in the window at the bottom.

Super Easy Installation

Installation is the task that scares most folks away from systems involving computers and radios. With TrunkTrac 6, it couldn't be easier. Plug the radio into the COM port using the supplied cable from Optoelectronics and plug in the power (in fact, if you have the Optocom running with another piece of software, you're all ready to run TrunkTrac).

It takes a few minutes to configure the software for your system (COM Port, etc.), and for the trunked communications systems you want to follow. Note that TrunkTrac can only follow Motorola systems at this time, but it can handle up to four of them at once.

The configuration is controlled through a "system.tnk" file. A lot of this information can be entered or updated from within the program, but at a minimum, you must identify the system, and its frequencies directly into the file. There is a sample file provided to help you make your system fit and still get the entries correct. Putting the minimum information in the system.tnk file is advisable because it is much easier to adjust other parameters from within the program. It would be real-



The list screen shows all the IDs being monitored, or multiple systems.

"Another cool feature of the TrunkTrac is the ability to scan in a 'priority' mode."

ly convenient if you could also enter the system ID and frequencies from within the program, but that function is not available in the current version of the software. Any text editing program can edit the file, so it's not a major obstacle, but more of a psychological "tinkering with the works" type barrier. I used DOS's Edit program and it works just fine.

So Let's Make It Work

Once all the required information has been entered into the appropriate files, you're ready to begin trunking. The first thing to do is select the systems menu and pick the system you want to listen to. I'm assuming at first you'll probably only have one system installed, so that will be an easy pick. However, later you can have many systems installed, and you can listen to as many as four at once.

Once the system is selected, TrunkTrac begins by locating the data channel. If you have a reasonably strong signal, this won't take long, and then the display will begin to show you IDs being found in the search mode. Since we're scanning, or rather searching a new system, the IDs that are found will all indicate "NOT TAGGED," but we can fix that in a hurry by adding ID tags to the numbers that we can identify. It doesn't take long to get most of the numbers on a system figured out. Pressing ALT-T will allow you to assign a tag that will be displayed the next time that ID number goes active. The tag feature alone makes it worth tying up an old computer.

Trunking

TrunkTrac has two screen modes for actual operation. Running in single system mode, the default "Channel screen" format provides a great overview of system activity. In the upper part of the display, TrunkTrac will show you all of the talkgroups that are currently active. Later, in the scan mode, any of these that are of interest will become active and also display at the bottom portion of the screen as the audio is heard. In search mode, the first active conversation is heard unless it's locked out, but the display will try to update you on additional activity. It's fascinating to watch the amount of activity on the system go from very busy to absolute dead in a matter of seconds.

". . . it works, and works well."

The other screen display mode, the scrolling format also has advantages. For one thing, if you are scanning multiple systems, this is really the only screen that will give you any truly valuable information. In this mode, the IDs that are active are listed in the left column. As more activity is found, the screen scrolls up so that a historical list of things that have been active in the last few minutes can be seen. If there's room (and there is in a single system mode, but less in multi-system operation), the scan lists will also be displayed. This mode only displays the alpha tags for the currently active ID at the bottom of the screen as they are on the air. You do not see anything but numbers scrolling or in the ID lists until something of interest becomes active.

Scanning For IDs

You can maintain lists of talkgroups that you are interested in listening to, called scan lists. Each list in TrunkTrac can have up to 14 ID's and there are five lists. But it gets better. The set of five lists can be saved (and should be) to a "personality." You can have up to 10 personalities per system making concentrating on particular types of activity easy to switch in and out. For instance, our system has both Police and Emergency Medical Services on it. Most of the time, I'm not interested in the EMS traffic, so I set up a personality that does not include them. However, there are times when that's the only thing I want to listen to, or I want that mixed in with a few of the police dispatch channels. Setting up a personality for each of these situations still leaves me with plenty configurations to spare.

Another nice feature is that it will allow for monitoring of both phone interconnect calls, and private (unit-to-unit) calls. These can easily be turned off by using the scan mode (with none of these IDs loaded) or by the use of the Alt-V command.

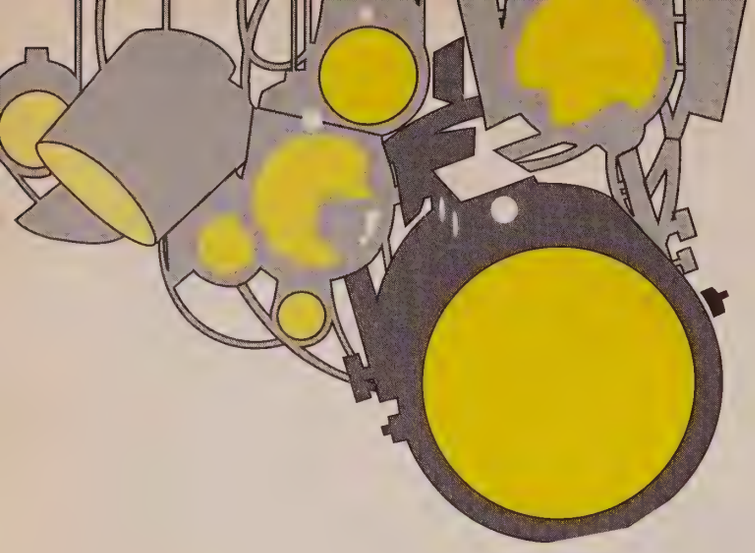
Keeping Your Priorities Straight

Another cool feature of TrunkTrac is the ability to scan in a "priority" mode. Scan List 1 has the highest priority; any ID that becomes active in that list will cause the system to flip over and follow that conversation regardless of what it was listening to before. List 5 has the lowest priority.

What this allows you to accomplish, much like the priority system on a conventional scanner, is to focus on one or more talkgroups, but still follow other, less important activity when the important ones aren't active. A good example of that is our local detective talkgroup. They don't talk much, but when they do, it's almost always interesting. By putting them in a higher priority list than the dispatch channels, most of the activity on the detective group can be heard, but I can still listen to the dispatch channels when things are slow. Nice feature once you play with it a little bit.

There are really only a couple of minor drawbacks to this excellent program. One that I've already mentioned is the need to edit configurations and systems with an external text editor. A second problem that is a bit frustrating at first is the requirement to obtain an unlock code that is keyed to the radio when you first buy the software. This requires installing the software, getting a couple of numbers, and then E-mailing them to an address to get the corresponding unlock code. Mine came back fairly quickly, but I did hear some complaints about delays of a few days or more as the program was being introduced. Once you have this code, however, it's a non-issue as the code is radio specific and not computer-specific as in other systems, so you're free to move the radio and software to any computer you wish without getting another code. All in all, a relatively minor issue, but some users have found the initial process a bit frustrating.

The bottom line is that it works, and works well. If you have an OptoCom and want to listen to Motorola trunked systems, this program should be in your arsenal. It's available for $99 from Scanner Master, Box 428, Newton Highlands, MA 06261 or call 800-722-6701. Tell them you read about it in *Pop'Comm*. ■



product spotlight

POP'COMM REVIEWS PRODUCTS OF INTEREST

An "RF Sniffer" — WB6NOA Takes A Look At A Cool New Product From NCG/Comet

Did you ever wish you had a cheap and easy way to know if a radio in your shack is actually transmitting? Or, if some other piece of electronic equipment is putting out RF that may be causing interference? Then you've got to check out NCG/Comet's new RF sensing "bug," available — when it's not all sold out — for a mere $15 — through all Ham Radio Outlet stores.

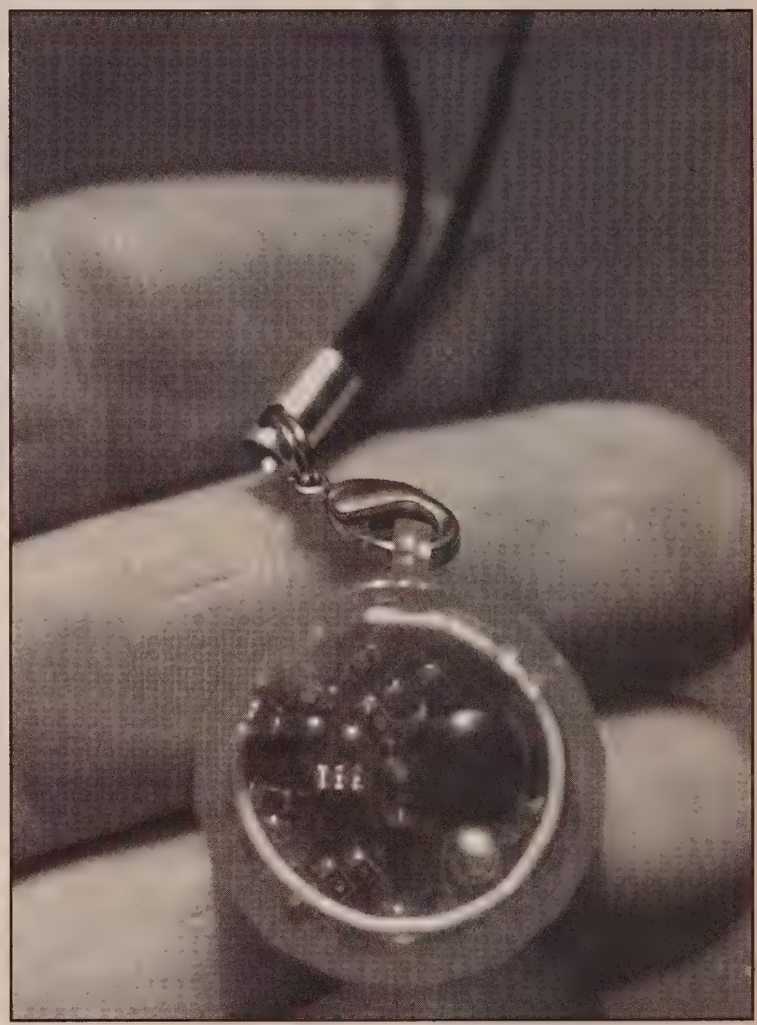
"This tiny RF monitor is designed for nearfield response to any RF signal between 2 MHz and 2,000 GHz."

This tiny RF monitor is designed for nearfield response to any RF signal between 2 MHz and 2,000 GHz. As soon as the RF sniffer bug senses an on-the-air signal, it jumps to life with a spinning LED activation that is sure to grab your attention. It automatically cycles down after a few seconds of alert. The device runs for months on a little hearing-aid battery.

During our tests, I could get it to turn on within a couple of feet of a 2-meter handheld transmitting on its rubber duck antenna. On bigger 2-meter base stations, it went off within 20 feet of the antenna. And on UHF and higher frequencies, the range gets even further because of the very small antenna encapsulated within the plastic see-through cover. It can even work as a microwave oven leak detector!

They are relatively inexpensive — under $15 — and they come with a fresh battery for several months of use. I use mine on the test bench when I need to do a quick check on whether or not a little handheld radio is indeed transmitting.

Is this more a gadget than a useful RF tool? I think it's a *valuable tool;* the other day, I was working with my neighbor who just bought a new weather station that was somehow giving me interference on 433 MHz. When my tiny NCG/Comet RF sniffer kept going off near the weather monitor readout, it alerted me that this was not a wired sensor station, but one that transmits on 433 MHz — and was clobbering my weak signal SSB reception. What I thought were hard wires to the sensors were actually a pair of wires going to an auxiliary rain gauge. Without that sniffer, I probably would have gone on assuming that it was a wired unit.



LEDs in the palm-sized RF sniffer start flashing in the presence of nearfield RF energy. You can use it to see if a transmitter is working, to help track down interference, or even to check for leaks in your microwave oven.

The RF sniffer from NCG/Comet is available from all Ham Radio Outlet stores. For the location nearest you, or to place a phone order, call 800-854-6046, 800-444-9476, or 800-444-4799. On the Web: <http://www.hamradio.com>. ■

BY GORDON WEST, WB6NOA

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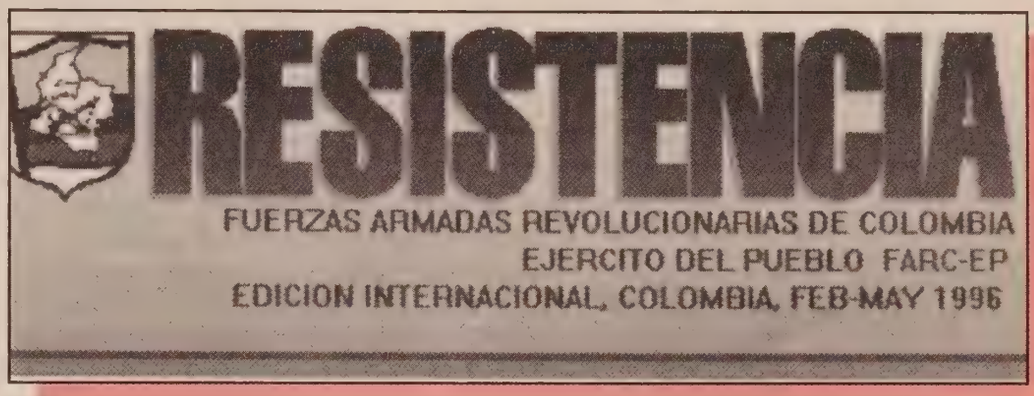
clandestine communiqué

Tuning In To Anti-Government Radio

Easy Listening Targets: Democratic Voice Of Burma, And The Voice of Sudan



The anti-Israeli **Voice of Palestine** is being heard on variable **11800** and on **13660**, in Arabic, to sign-off at around 0425. These shortwave transmissions are believed to be via Iranian government transmitters.

The Voice of the People of Kurdistan is now operating on variable **6980**, rather than their former 7000 frequency, in parallel with variable **4060**. It's a fair bet that the 6 Meg. frequency isn't a final one, however. The schedule has some oddball start and stop times: 0257 to 0400, 1120 to 1215, 1437 to 1813, and 1930 to 2048. Programs are in Kurdish and Arabic.

Colombian clandestine **Radio Patria Libre**, operated by the ELN guerrillas, is still active on or around **6250**, with Spanish language broadcasts of 30 to 40 minutes' length at 1800 and 2200.

The other clandestine operating from within Colombia, **Voz de la Resistencia**, is probably an even more difficult reception for many of us — partly because it's liable to show up almost anywhere on 49 meters. It has been wildly variable in recent months. Its home base, if it can be said to have one, is around **6170.** Broadcasts are at 1130 and 2130. Another program service airs on or around **6240** at 1100, 1300, 1700, 1800, 2000, and 2130.

The Voice of Sudan continues to be active on or pretty close to **8000**, operating from 1600 to 1800. This is one many of us can hear without too much trouble. The Sudanese government (at least we presume that's the source) operates a music jammer which tries to put the hex on reception of the Voice of Sudan. Broadcasts are in Arabic.

The anti-Chinese **Voice of Tibet**, broadcast from transmitters in Dushambe, Tadzhikistan, (former Soviet republic) is now using **15645** from 1225 to 1255.

The Democratic Voice of Burma currently operates on **11850** via a Radio Norway transmitter, **15605** via a Deutsche Welle (Deutsche Telekom) transmitter in Germany, and on **17750** via the Radio Netherlands relay in Madagascar. The schedule runs for only 25 minutes; 1430 to 1455. Another transmission airs from 1245 to 1345 on **5945, 15605, and 17750.**

The U.S. government's **Radio Free Europe/Radio Liberty** airs a sort of **"Radio Free Iran"** service in Persian from 0430 to 0630 on **9510, 11945, 12015, and 15525**. And at 1500 to 1700 on **9615, 13725, 13665, and 15495**.

RFE/RL is also responsible for **Radio Free Iraq**, which airs in Arabic daily from 0200 to 0400 on **6140, 7255, 9730, and 9865**. Also from 1500 to 1700 on **6185, 9825, 11805, and 15160.**

The Voice of China is on the air in Mandarin Chinese from 0830 to 0930 on **11940**, and may also be on the air from 2100 to 2200 on **15280**. The broadcasts are carried over Taiwan government transmitters, but are produced by an apparently independent group called the Foundation for China in the 21st Century. They announce an address of P.O. Box 273538, Concord, CA 94527. The mainland government is jamming the broadcasts.

A new station in support of the Tamil resistance is **Tamil Oli Radio**, on the air via the Radio Netherlands Madagascar relay station from 1128 to 1228 on **17495**, in both Tamil and French.

Tricia Ziegner in Massachusetts reports reception of **Radio Kudirat**, the Nigerian clandestine broadcasting from South Africa's Meyerton transmitting site. She heard them on **11560** just after 1933 with a discussion of the "multiple problems in our own dear country." The announcer said that "freedom has been stabbed to death." Tricia noted that the host seemed somewhat encouraged by the new government. Brian Alexander in Pennsylvania also heard them, from 1900 tune in with a political talk, local African music, and IDs. Brian also noted some talk in vernaculars.

That covers things for now. A reminder that your clandestine station loggings, QSLs, schedules, comments, and any background information you may run across are always very welcome for this column. The world of clandestine broadcasting is one of the most fascinating (and at the same time often the most frustrating) segments of the shortwave listening hobby. You can hear some really interesting signals if you put some effort into the search. And we hope you'll let us know what you hear.

Until next month, good hunting! ■

BY GERRY L. DEXTER

broadcast dxing

DX, News And Views Of AM And FM Broadcasting

DXing The Contiguous 48

Mid-winter often provides mediumwave DXers with the best conditions for transcontinental reception. Atmospheric noise is low and the nights are long. Old time DXers may remember when logging the lower 48 states on AM was possible. There was a time when clear channel radio stations were heard coast-to-coast on a regular basis. Now, with the congestion created by the FCC break-up of the clears, it may be more challenging, but it's still possible.

Chances of hearing many states have improved with new targets on the X-band. Some frequencies are great for sunset and sunrise DX from states without 50,000-watt clear channel stations. For example, 1550 and 1580 kilohertz are favorite sunset roosts. Of course, results will vary based upon location and equipment. DXers in the west will find it difficult to log the New England states, while their counterparts in the east, struggle to hear the Pacific northwest. Here's a state-by-state target list of possible catches. Even if you don't catch 'em all, at least it's fun to try.

ALABAMA — WLOR, formerly WAAY, Huntsville, on 1550 during sunset used to represent the best chance of hearing this state. Now, **WPHG**, Atmore, on **1620** makes Alabama an easier target.

ARIZONA — Keep your ears open for Radio Disney, **KMIK**, Tempe, at **1580**.

ARKANSAS — KAAY, Little Rock, on **1090** does a good job covering the plains states, but is tough further east and west. The best time to catch this one will be during the sunrise and sunset hours.

CALIFORNIA — DXers used to rely on **KFI**, Los Angeles, on **640** as a west coast beacon. Now with increased congestion on 640, **KSMH**, Auburn, on **1620**, **KDIA**, Vallejo, on **1640,** and **KGXL**, Torrance, on **1650** might be more dependable targets.

COLORADO — KOA, Denver, at **850** still has a respectable signal despite increased congestion on this clear channel. The new kid in town is Radio Disney **KDDZ**, Arvada, at **1690**.

CONNECTICUT — WTIC, Hartford, on **1080** is a good target for most DXers, with interference from **KRLD**, Dallas, Texas, on **1080** the biggest problem. **WICC**, Bridgeport, at **600** is another good East Coast target.

DELAWARE — It's catch-as-catch-can from the First State. Try for **WDEL 1150** and **WJBR 1290** from Wilmington, or even graveyarder **WILM** on **1450** does relatively well.

FLORIDA — Check the bottom of the dial for **WQTM**, Pine Hills, monitored at **540,** or the top of the dial for **WMIB**, Marco Island, at **1660** and **WAFN**, Miami Springs, at **1700**.

GEORGIA — From their Peachtree Street studios, **WSB**, Atlanta, at **750** still packs a punch, despite interference from **RCR**, Caracas, Venezuela. **WRNC**, Warner Robins, at **1670** is a good alternative for West Coast DXers.

IDAHO — KBOI, Boise, at **670** is the hottest potato, followed by **KGEM**, Boise, at **1140,** although both beam their signals west overnight to protect stations to the east.

ILLINOIS — The Windy City blows strong as ever with clear channel stations like **WMAQ** at **670, WGN** at **720**, **WBBM** at **780**, **WLS** at **890**, and **WMVP** at **1000** on the dial.

INDIANA — WOWO, Ft. Wayne, on **1190** is still the best choice for DXing the Hoosier State, although the upgrade to full-time operation by WLIB, New York, made it more challenging for listeners in the northeast.

IOWA — WHO, Des Moines, at 1040 and KXEL, Waterloo, at 1540 used to be the cream of the crop, until **KCJJ**, Iowa City, at **1630**, KDNZ, Cedar Falls, at **1650**, and **KBGG**, Des Moines, at **1700** topped the dial.

KANSAS — If Kansas City ever gets off the ground at 1660, then your chances will improve. Otherwise, **KKOW**, Pittsburgh, at **860** and **KFH**, Wichita, at **1330** remain fairly good targets.

KENTUCKY — "Kentuc-iana's" news and talk station, **WHAS**, Louisville, at **840** is on DX turf for most. **WPAD**, Paducah, at **1560** is a good sunset target.

LOUISIANA — WWL, New Orleans, at **870** and **KWKH**, Shreveport, at **1130** keep truckers and DXers entertained overnight.

MAINE — Fishing for DX from Down East requires some skill and some luck. Try for **WLAM**, Gorham, at **870**, **WSKW**, Skowhegan, at **1160**, **WDEA**,

BY BRUCE CONTI <BAConti@aol.com>

Scan Our Web Site

Ellsworth, at **1370**, or any of the Portland regional stations.

MARYLAND — WBAL, Baltimore, at **1090** is still a favorite target with their ESPN Zone broadcasts, although some may find **WMDM**, Lexington Park, at **1690** somewhat easier to hear.

MASSACHUSETTS — WBZ, Boston, at **1030** beams 50,000 watts to the west, making this the easiest of the New England states to catch, with locally produced talk overnight by caring and intelligent personalities.

MICHIGAN — WJR, Detroit, at **760**, the station of the Great Lakes, still has a grip on this clear channel, with the most significant interference problems from Cuba and Colombia. **WLQV** at **1500** is another possible target before they reduce power at sunset.

MINNESOTA — Once known as "The station that serves the Nation," **WCCO**, Minneapolis, at **830** remains a long-time favorite coast-to-coast target.

MISSOURI — No question, **KMOX**, St. Louis, at **1120** is the gateway to the Show Me state.

MISSISSIPPI — This state seems to have more than its share of daytime-only and low-power nighttime AM operations. 50,000-watt **WCPC**, Houston, on **940** is catchable at sunset before they reduce power.

MONTANA — The toughest of the Rocky Mountain states, perhaps, **KOFI**, Kalispell, at **1180** deserves a shot over any others only because it's Montana's highest power AM at night.

NEBRASKA — DXers to the west should have no problem hearing **KRVN**, Lexington, on **880**, as they beam most of their nighttime signal away from New York to protect WCBS. New X-bander **KOIL**, Bellevue, on **1620** gives everyone a better shot.

NEVADA — Place your bets on **KDWN**, Las Vegas, at **720** and **KKOH**, Reno, at **780**.

NEW HAMPSHIRE — WGIR, Manchester, at **610** with the Action News Network is a good bet, along with **WFEA**, Manchester, at **1370**. The Granite State has been difficult to hear ever since **WHEB**, Portsmouth, went dark on **750**, but that may change if **WQTH** ever signs on at **720**, or plans for a new X-band station at 1700 are realized.

NEW JERSEY — Once one of the more difficult states to hear, the Garden State is now well represented on the X-band with **WWRU**, Elizabeth/Jersey City, at **1660** and **WTTM,** Princeton, at **1680**.

NEW MEXICO — KKOB, Albuquerque, at **770** covers just about everywhere that WABC, New York, doesn't.

NEW YORK — The Big Apple has cornered the market with clear channel stations **WNBC** "The Fan" at **660**, **WABC** talk at **770, WCBS** News Radio at **880**, and Radio Disney **WQEW** at **1560** among others. From upstate, **WGY**, Schenectady, at **810**, **WHAM**, Rochester, at **1180**, and **WWKB**, Buffalo, at **1520** are worth a stop on your next listening tour.

NORTH CAROLINA — WBT, Charlotte, at **1110** is the number one choice. **WNCT**, Greenville, at **1070** in Spanish is heard up and down the coast overnight.

NORTH DAKOTA — Until this state's first X-bander signs on at **1660**, try for **KFNW**, West Fargo, at **1200** or Real Country **KLTC**, Dickinson, at **1460**.

OHIO — The Big One, **WLW**, Cincinnati, is still in command of **700**, followed by **WTAM**, Cleveland, at **1100** and **WSAI**, Cincinnati, at **1530**.

OKLAHOMA — KVOO, Tulsa, might be heard on **1170** with country music, or try for **KOMA**, Oklahoma City, at **1520**. Both are 50,000 watts directional stations.

OREGON — KPNW, Eugene, at **1120** and **KEX**, Portland, at **1190** have solid clear channel signals that are unfortunately dumped over the Pacific at night to protect stations to the east. Try during Pacific coast sunset.

PENNSYLVANIA — From the City of Brotherly Love, try **KYW** at **1060** and **WPHT** at **1210**. Want to add two more eastern K-calls to the log? **KDKA**, Pittsburgh, at **1020** is a popular catch, followed by **KQV** at **1410.**

RHODE ISLAND — Good luck! **WPRO**, Providence, at **630** is the most widely heard from the Ocean State. **WHJJ**, Providence, at **920** is also worth a shot, while sunset might yield **WPMZ**, Providence, at **1110** in Spanish or **WJJF**, Hope Valley, with country music at **1180**.

SOUTH CAROLINA — The toughest of the south Atlantic states, **WXTC**, Charleston, at **1390** has always been a good target. **WBSC**, Bennettsville, on **1550** and **WDAB**, Travelers Rest, at **1580** are possible at sunset.

SOUTH DAKOTA — Probably the most difficult of the plains states, you might hear **KSOO**, Sioux Falls, locked in a battle with **WRVA** on **1140** or **KGFX**, Pierre, on **1060**.

TENNESSEE — WSM, Nashville, at **650** is still the blowtorch of the Grand Ole Opry. **WLAC** at **1510** also covers a very large area.

TEXAS — WOAI, San Antonio, used to be the lone star of **1200** before break-up of the clears. They still cover an area larger than Texas, along with **WBAP**, Ft. Worth, at **820**, and **KRLD**, Dallas, at **1080**. Rustle up some signals on the X-band too, from **KRZX**, Waco, at **1660** and **KTBK**, Sherman, at **1700**.

UTAH — KSL, Salt Lake City, at **1160** is still a popular target, although **KXOL**, Brigham City, at **1660** on the X-band has become a new favorite.

VERMONT — Aim your Beverage wire carefully! Probably the toughest of the New England states, **WVMT**, Burlington, at **620**, **WSYB**, Rutland, at 1380, and **WKDR**, Burlington, at **1390** are potential targets.

VIRGINIA — WRVA, Richmond, still covers most of the nation on **1140**. **WZAP**, Bristol, at **690** is often heard over long distances during East Coast sunset.

WASHINGTON — KOMO, Seattle, at **1000** is the DX king, followed by **KIRO**, Seattle, at **710.**

WASHINGTON, DC — WTOP News Radio at **1500** is the best candidate from our Nation's capital, but listeners to the west have to deal with KSTP, St. Paul, Minnesota, at 1500 first.

WEST VIRGINIA — WWVA, Wheeling, at **1170** still serves truckers, now with country music and road reports from the Interstate Radio Network overnight. **WMRE**, Charles Town, at **1550** during sunset is possible for those who desire something more challenging.

WISCONSIN — WISN, Milwaukee, at **1130** used to be the big cheese of DXing before the X-band. Now, **WKSH**, Sussex, at **1640** and **WTDY**, Madison, at **1670** share the spotlight.

WYOMING — DXers listening for WBZ, Boston, may instead hear **KTWO**, Casper, on **1030**. For many though, **KKWY** on **1630** may be easier to lasso.

For more about cross-country DXing, check out *"Discover DXing!"* by John Zondlo, available from Universal Radio. The 20th edition of the *NRC AM Radio Log* is out, and it's an indispensable reference for anyone who wants to dig deeper into domestic DXing. Visit <www.nrcdxas.org> for more info. In the meantime, keep this target list handy next to your receiver, and be sure to keep *Pop' Comm* readers appraised of your progress toward hearing the lower 48. Join our regular reporters simply by sending your logs and QSL reports to *Popular Communications*, 25 Newbridge Road, Hicksville, New York 11801, or by E-mail directly to me at <BAConti@aol.com>. Several reports are on hold until next time. Until then, 73 ■

the ham column

Getting Started As A Radio Amateur

Logbooks: Your Ham Radio History

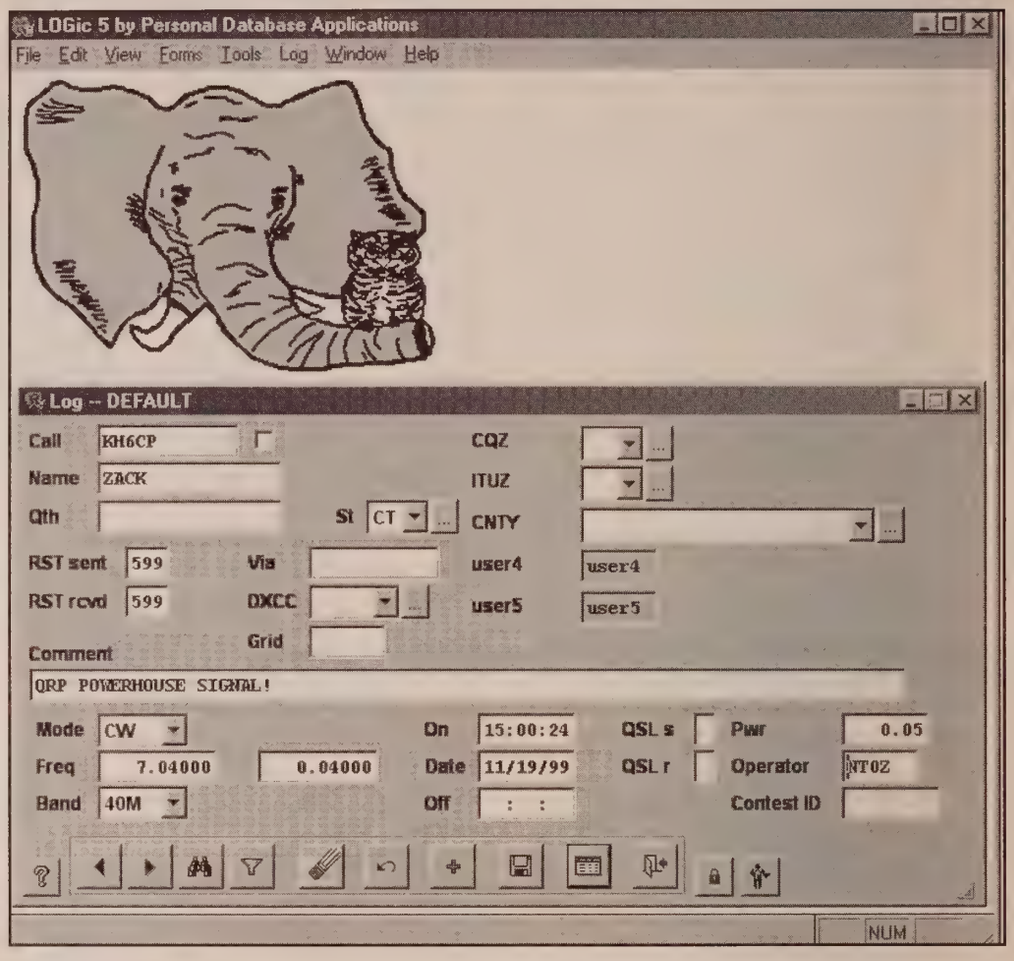
In the Golden Age of Radio (at least several years ago), the FCC insisted that hams keep detailed station logs: Date, time, mode, callsigns, frequency, power output — the works. Every time a QSO resulted, the next blank line in the handy ARRL Logbook was carefully, painstakingly filled in. In addition to regular QSOs, hams even had to log unsuccessful CQ calls. Every transmission, no matter how brief, had to be logged! Look at an old-timer's logbook and you'll see pages of unanswered CQ calls trailing down the page.

We don't have to get that detailed today. In fact, we aren't *required* to keep a log at all. But maintaining an accurate station log is still worthwhile today — and will be priceless tomorrow.

It's been more than 20 years since I made my first log entry, and I'm amazed at how just looking at my first logbook is like jumping into a ham radio time machine. Without the benefit of the log, I can remember a few of my early QSOs; the QSOs that shaped my amateur radio career. With the log, however, I can remember those QSOs in great detail, as if I'm watching a big-screen movie in my mind's eye. With my logbook scrawls and notations, I can *hear* the CW coming from my first transceiver — my prized "first real radio" that I worked an entire summer to pay for. I can *feel* my trusty J-38 straight key — now unused for years — to which I added a drilled-out poker chip "knob enhancer." I can remember the thrill of working countless DX stations that I would have otherwise forgotten.

The simple act of keeping a station log has kept those memories fresh for two decades. And as long as I have them, they'll stay fresh for as long as I'm around. If you don't keep a station log for any other reason — there are many present-day incentives for keeping an accurate log — keep it for your own future nostalgia.

When some of you beginners are old-timers, ham radio probably won't even exist in its present form. You can tell your grandkids, "Yep, Junior, I used to talk to other hams with Morse Code, or by speaking into a microphone that modulated radio waves in the MF/HF spectrum!" If they don't believe you — and they probably won't — show 'em the log. To keep you motivated until old age, here are some compelling reasons to keep a log today.



Shown here is the main logging window from LOGic 5, the flagship computer logger from Personal Database Applications (www.hosenose.com). LOGic is a comprehensive "do everything" program that can handle routine QSOs, contests, awards tracking, antenna steering, radio control, and much more. It takes a robust computer (a Pentium with Windows 95™ or better) to run efficiently, but once it's up and running, you'll be in for a real treat. If your PC is a bit older, or if you prefer a DOS environment, check out PROLOG from DataMatrix or LogEQF from EQF Software (www.it is.net/eqf).

Precious Information

We all have information and "benchmarks" we like to keep track of: states and countries worked and confirmed; information for awards; or the names and addresses of our on-the-air friends. A well-kept station log is invaluable in your quest for the Worked All States or The DX Century Club (DXCC) awards. In addition to keeping a running list of states and countries, your logbook is the perfect place to keep detailed information on a wide range of subjects.

You can track modifications and changes to your equipment. Not only will the information be easy to find for future reference, it will be easier to note the effects of such changes by referencing contacts before and after. How does your new tri-band beam compare with your old

BY KIRK KLEINSCHMIDT, NTØZ

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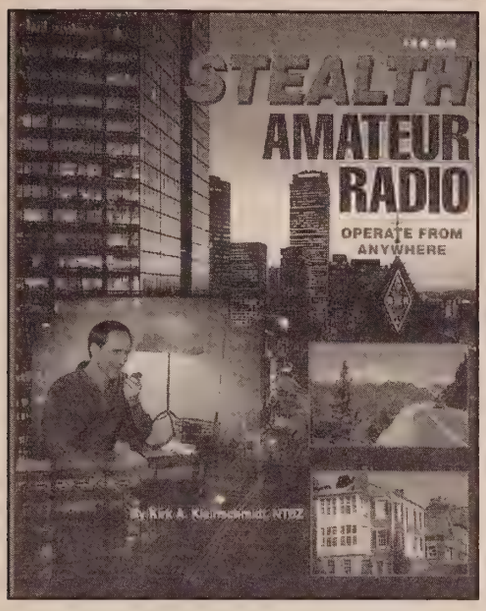


My new book, Stealth Amateur Radio, *should be available from your favorite amateur radio dealer by the time you receive this issue. Although some of the information found in the book will work its way into "The Ham Column," if you want to get the lowdown on how to effectively operate from apartments, condos, or neighborhoods with antenna restrictions, SAR has everything you'll need to know in one handy volume.*

trap vertical? Check out the signal reports in your logbook and you'll get a good idea!

DXers often refer to their logs when trying to work into specific parts of the world. When is the best time to work Japan in the winter? A quick check of last year's log entries will probably turn up the required information.

Feel free to note other changes in your log, too. When you upgrade, note it in your log. When you get a new rig or put up that long-awaited killer antenna, write it down. This is what logbooks are for — not just recording QSO information!

Computer Logging: A Modern Marvel

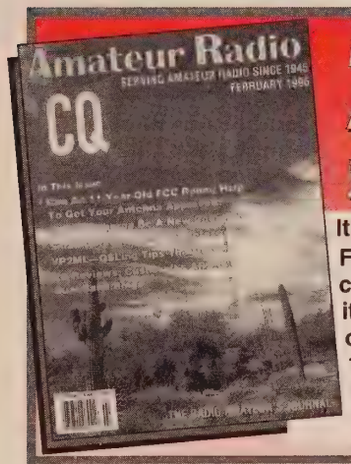
Computers and ham shacks are now inseparable, especially for contesters and DXers. If you have a PC in your shack, consider using it to keep your station log. Just remember to back up the log data by making archival copies and/or by printing the log to paper. In 30 years, 3.5-inch floppies and DOS-encoded data files will be readable only in museums, while paper will still be paper.

Several excellent logging programs are available, and most packages have lots of handy bells and whistles. Check the ads in *CQ Amateur Radio* and other amateur radio magazines. Logging programs may also be available through your local club or computer user's group. If you're into programming, consider writing your own logging software.

If computerized logging isn't your thing, *The ARRL Logbook* is just what you've been looking for. Used by millions of hams over the years, the latest version is available from the ARRL for a few bucks (or from your favorite amateur radio dealer). It has room for nearly 1,000 QSOs and includes useful information such as Q signals, a time-conversion chart, the ITU phonetic alphabet, an RST chart, international callsign prefixes, and more.

Whatever you do, whatever your methods, be sure to keep some kind of station log. You'll be glad you did — sooner or later!

That's all for this month. Send your QSL cards, questions, and letters about ham radio to "The Ham Column," *Popular Communications,* 25 Newbridge Rd., Hicksville, NY 11801. ■



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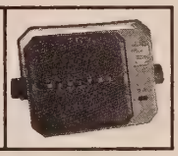

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the listening post

What's Happening: International Shortwave Broadcasting Bands

Adventist World Radio Closes Down Costa Rican SW Facility, And Germany's RIAS Is Now 24-Hours-A-Day!

We open this month with the unexpected news that Adventist World Radio has closed down its shortwave broadcasting facility in Costa Rica and will be selling its site at Cahuita. This is part of an expansion plan aimed at increasing AWR's coverage of Latin America through a growing number (currently about 50) of AWR-owned mediumwave and FM stations in Central and South America (as well as non-AWR stations) fed by a new satellite network AWR launched in 1998. One of the Cahuita transmitters is being moved to the AWR site near Guatemala City, where it will resume its previous job of beaming AWR programming mostly to Cuba. The Guatemalan outlet is on **5980**. At this writing, we don't know what kind of reception we'll be getting, although the previous transmitter in Guatemala (usually on 5981) was never heard as well as the broadcasts from Costa Rica. The Guatemala transmitter site is at Canelitos, just outside the city limits of Guatemala City.

It's ancient history now, but reception of the "final" Radio St. Helena broadcast in October seemed generally better than the '98 broadcast. "The Listening Post" received the QSL for the 1998 broadcast just two days before the '99 broadcast. (One DXer got his QSL during the 1999 broadcast!). The accompanying letter left a tiny glimmer of hope for a return in the future if and when Cable and Wireless is able to replace the transmitter used for the Radio St. Helena broadcasts. That transmitter was taken out of service after the 1999 broadcast.

It looks as though HCJB is a step closer to having a facility in Australia. They've been given a 200-acre site at Kununurra in Northeast Western Australia, and apparently "the force is with them" as far as political and licensing factors are concerned. They hope to eventually have six high-power transmitters in operation at the site, but say it will probably be at least two years before the facility is completed.

The former **RIAS (Radio in the American Sector)** transmitter in Germany, is in 24-hour-a-day operation on **6190**. RIAS became Deutschlandfunk a couple of years ago and also operates a transmitter on **6005**. All programs on RIAS are in German.

Lack of funds continues to weaken **Radio Ukraine International**. The high-power transmitter, which used 9945 and 21520, has been shut down, leaving only a single 100 kW transmitter in operation (near Kiev). It is currently on the air on **5905** from 1700 to 0200, **6020** from 2100 to 0500 and 0600–2000. Also check **6130** at 0600–1600, 9560 from 1700–0100, **9620** at 0200–1600, and **11840** from 0400–1700.

The new Dominican Republic station, **Radio Villa** on **4960**, is a sister operation to Radio Cima, which was on that frequency before Radio Villa came along but is now off shortwave.

It may no longer be on, but for a time at least, Radio Australia was carrying programs from **Australian Armed Forces Radio** (due to the East Timor situation). This was scheduled Mondays to Fridays from 1330 to 1430 on **9500 and 11660**. If it's still on, it should be easily heard throughout much or all of North America.

Robert Brossell of Pewaukee, Wisconsin, takes the monthly "Listening Post" reporter's prize this month for the quality loggings he's been sending in over the past several months. Robert has received a year 2000 edition of *Passport to World*

Radio Thailand, World Service

Broadcast Schedule

For listeners in all parts of the world, on short-wave 9655 and 11905 megahertz, 25 and 31 metres band, transmitted from Bang Phun,Pathum Thani, Central Thailand, and relayed over transmitters in Ban Dung, Udon Thani, Northeastern Thailand, on frequencies shared with the Voice of America, as stated below:

(effective October 31,1999,as per B-99 seasonal change)

GMT	BKK Time	Language	Direction	Frequency
0000-0030	07.00-0730	English	Europe-Africa	09680
0030-0100	0730-0800	English	US-East	13695
0100-0200	0800-0900	Thai	US-East	13695
0300-0330	1000-1030	English	US-West	15460
0330-0430	1030-1130	Thai	US-West	15460
0530-0600	1230-1300	English	Europe	15115
1000-1100	1700-1800	Thai	Asia-Pacific	07285
1115-1130	1800-1815	Vietnamese	Asia-Pacific	07285
1115-1130	1815-1830	Khmer	Asia-Pacific	07285
1130-1145	1830-1845	Lao	Asia-Pacific	06040
1145-1200	1845-1900	Burmese	Asia-Pacific	06040
1200-1215	1900-1915	Malaysian	Asia-Pacific	11805
1215-1230	1915-1930	Indonesian	Asia-Pacific	11805
1230-1300	1930-2000	English	Asia-Pacific	09810
1300-1315	2000-2015	Japanese	Asia-Pacific	07145
1315-1330	2015-2030	Mandarin	Asia-Pacific	07145
1330-1400	2030-2100	Thai	Asia-Pacific	07145
1400-1430	2100-2130	English	Asia-Pacific	07145
1800-1900	0100-0200	Thai	Asia-Pacific	09530
1900-2000	0200-0300	English	Europe	11855
2000-2015	0300-0315	German	Europe	09535
2015-2030	0315-0330	French	Europe	09535
2030-2045	0330-0345	English	Europe	09535
2045-2115	0345-0415	Thai	Europe	09535

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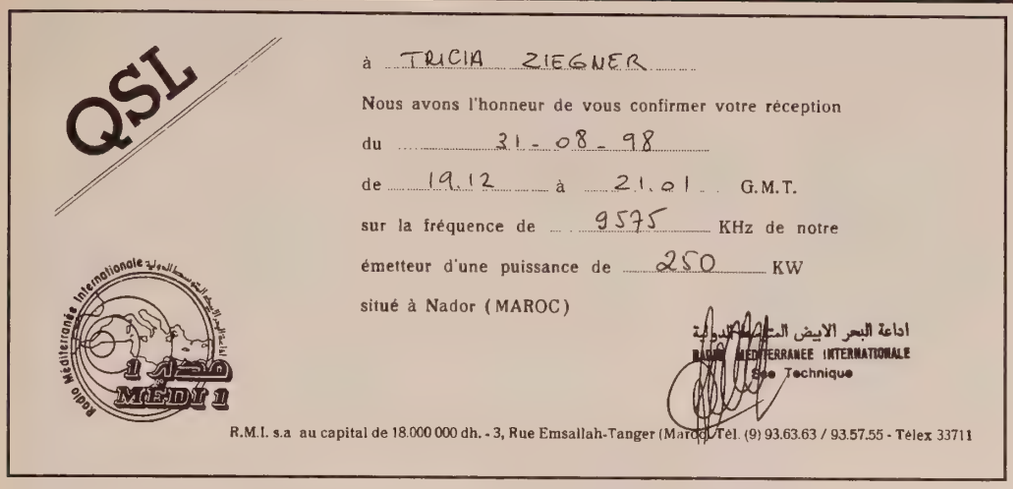
Current schedule for Radio Thailand.

BY GERRY L. DEXTER



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Tricia Ziegner bagged this nice card from Radio Mediterranean International.

You just never know what's going to show up in your mailbox. Lawrence Paola in New York got this QSL from Radio Sweden.

Band Radio — the essential "forget-about-trying-to-do-without-it" guide to the shortwave bands. Our thanks to CRB Research Books for supplying the copy of *Passport*.

CRB — The Radio and Electronics Hobby Bookstore — has a big catalog featuring more interesting books than you could read in an entire year. You can get a copy by writing them at P.O. Box 56, Commack, NY, 11725 or call 516-543-9169, 1400 and 2000, Monday to Friday.

Remember your reception logs are always welcome. Just be sure to list items by country, do a minimum double-space between each (so we can navigate scissors more easily) and add your last name and state abbreviation after each item. Other things we can put to good use are spare QSL cards you don't need returned, station photos, and other items from stations, including schedules. And, how about a photograph of you at your listening post? As always, thanks so much for your continued interest and cooperation!

Here are this month's logs. All times are in UTC, which is five hours ahead of EST, i.e.0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST, and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included, the broadcast is assumed to have been in English.

ALASKA — KNLS, **7355** at 0600 in presumed RR with religious program and Christian music. (Linonis, PA)

ANGOLA — Radio Nacional, **4950** at 0235 with PP talk, variety of PP ballads and pops, Afro-pops. **Parallel 3374.9** very weak and **11954.8** poor with QRM from BBC on 11955. (Alexander, PA) **11955** at 2040 in PP and vernacular. Many mentions of Angola. (Linonis, PA)

ANGUILLA — Caribbean Beacon, **6090** at 0000. (Newbury, NE) 0936 with Dr. Gene Scott and music. (Wright, MA)

ANTIGUA — BBC relay at 2330 with news, soccer scores. (Linonis, PA) 0200 with "The World Today." **17840** to Americas at 1557. (Jeffery, NY)

AUSTRALIA — Radio Australia, **9580** at 1505. **11650** at 1430 with jazz, news on the hour. **17580** at 0226 with discussion on land mines. (Newbury, NE) **15240//21740** at 0520. (Linonis, PA) **21740** at 2100 with news, comment, features. (Wilson, MA)

AUSTRIA — Radio Austria Int'l, **6015** (via Canada) at 0531 with waltz. (Miller, WA) **9655** at 0242 with news. (Newbury, NE) **9870** at 0150 with EE to North America. Into AA at 0200. (Linonis, PA)

BELARUS — Radio Belarus Int'l, **11670** at 0200 with news, comment, local music, schedule. Fair with some splatter from 11675. Weaker on **parallel 7210**. (Alexander, PA)

BELGIUM — Radio Vlaanderen Int'l, via Bonaire, **15565** at 2230–2300 and again at 0400–0430 in EE. (Paszkiewicz, WI)

BOTSWANA — Voice of America relay, **7415** at 2122 with "VOA News Now." Blocking co-channel WBCQ. (Jeffery, NY)

BRAZIL — Radio Nacional da Amazonia, **11780** monitored at 0025 in PP with Brazilian pops. (Miller, WA) Radio Anhanguera, **11830** at 0115 in PP. (Brossell, WI) Radio Cultura, **17815** monitored at 0100 in PP with Brazilian pops. (Linonis, PA)

CANADA — CHU time station, **7335** at 0443. (Wilden, IN) CKZU, Vancouver, **6160** at 0930 with CBC news. (Linonis, PA) BBC Sackville relay, **9515** at 1300 and 17840 at 1659. (Jeffery, NY) Radio Canada Int'l, **5960** at 2230 with "As It Happens." (Wilson, MA) **13650** at 2030 with news, weather, sports, "Maple Leaf Mailbag." **13670** at 2300 with news, "As It Happens." (Jeffery, NY) Radio Japan relay, **11705** at 0015 with sports news. (Newbury, NE)

CHILE — Voz Cristiana, **11690** at 0345 in SS with ID, Christian music. (Linonis, PA)

CHINA — Hazia 1, **11590** at 1220 in CC. Very weak. (Northrup, MO) Central People's Broadcasting Station, **15500** at 0327 in CC. (Foss, Philippines) China Radio Int'l, **5990** via Cuba at 2300 with news. (Wilson, MA) **9690** via Spain at 0315 with EE to North America. (Linonis, PA) 0305. (Newbury, NE) **11600** at 1220. (Northrup, MO)

COLOMBIA — Caracol Bogota, **5078** at 0526 with news in SS. (Miller, WA)

COSTA RICA — TIFC/Faro del Caribe, **5054.6** in SS monitored at 0752. (Foss, AK) **5055** in SS at 0530 with ID, religious program. (Linonis, PA) RFPI, **6975** at 0501. (Wright, MA) **15050** at 2145. (Linonis, PA)

CUBA — Radio Havana Cuba, **6000** at 0105. **17680** at 2345 in SS. (Wilden, IN) **6000** at 0246. (Jeffery, NY) **9820** at 0630. (Hill, ID)

CYPRUS — BBC relay, **11955** at 0315. (Brossell, WI)

DOMINICAN REPUBLIC — Radio Villa, **4960** at 0355 in SS with SS vocals, shouted ID. (Paszkiewicz, WI)

ECUADOR — HCJB, **14140** at 0116 with jazz music and SS vocals. (Wilden, IN) **17660** at 1925 with "Studio 9," "Ham Radio Today." (Jeffery, NY)

EGYPT — Radio Cairo, **9850** monitored at 0315 with AA programming. (Brossell, WI) **9900** at 2315 with EE to North America. Middle-Eastern music and program about former President Sadat. (Linonis, PA) 2320 with news. ID 2334. (Wright, MA) 2345 with mailbag program. Very strong and very good audio for a change. A week later, it was distorted again. (Alexander, PA) 0005, strong but garbled. (Newbury, NE)

ENGLAND — BBC, **6175** (via Canada) monitored at 0042. (Wilden, IN) 0537 with drama. (Miller, WA) **9740** at 1155. (Northrup, MO) **12090** at 1400. (Wilson, MA) **15400** to Africa. (Jeffery, NY)

FRANCE — Radio France Int'l, **15135** at 0520 in FF with dialogue between man and woman announcers. (Linonis, PA)

Abbreviations Used in Listening Post

AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

Here's the Radio St. Helena QSL for the 1998 broadcast.

GABON — Africa Number One, **9580** at 0545 in FF with Afro-pops, lots of IDs and weather for West Africa. (Linonis, PA) **15475** at 1835 with news in FF. (Ziegner, MA)

GERMANY — Deutsche Welle, **9535** via Portugal at 0315. (Newbury, NE) **15535** at 1400 in AA with Turkish and Moroccan music. (Ziegner, MA) **17595** at 1600. (Brossell, WI)

GREECE — Voice of Greece, **7450** at 0340 in Greek with traditional music. **11645** at 0344 with Greek music. In Greek. (Newbury, NE)

GUATEMALA — Radio Cultural, **3300** at 0809 with music. (Foss, AK)

HUNGARY — Radio Budapest, **9840** at 0248 with DX program. (Newbury, NE)

INDIA — All India Radio, Calcutta, **4820** monitored at 0712 in unidentified language. (Miller, WA)

IRAN — Voice of the Islamic Republic of Iran, **9022** at 2300 in Hausa. Into FF at 2330. (Ziegner, MA) **15260** at 0530 with national anthem and sign-off. (Linonis, PA)

IRAQ — Radio Iraq International, **11785** at 0348 in AA with pop vocals. (Paszkiewicz, WI) **11787** at 0212 with AA talk, local music. Just an open carrier from 0242 to 0310 when they had talk in unidentified language, into Koran, local music. Fair strength but poor audio, and with the usual hum in the audio. Use USB reception mode to avoid splatter from 11785. (Alexander, PA)

ISRAEL — Kol Israel, **11605** monitored at 2000 with news. (Linonis, PA) 2020 with news. (Wright, MA)

IVORY COAST — Radio Cote D'Ivoire (presumed) **4940** at 0515 in FF and vernaculars. (Linonis, PA)

JAPAN — NHK/Radio Japan, **6110** (via Canada) at 0504 with news. **11700** at 0002 with news. (Wilden, IN) **6110** at 0534 with Sumo wrestling news. (Miller, WA) **9665** via Ascension at 0100. (Brossell, WI) **9855** at 1215 in JJ. (Northrup, MO) **15590** at 0518 with the program "44 Minutes." (Foss, Philippines) **17825** at 0347 with variety show. (Newbury, NE)

KUWAIT — Radio Kuwait, **11675** at 0339 in AA. **15110** at 1505, also in AA. (Miller, WA) **11990** at 1840 in EE with news, sports, weather. (Linonis, PA) 1901 with EE to North America. (Wright, MA)

LEBANON — Voice of Hope, **6279.96** at 2320 with local music, religious program in unidentified language. Fair, but stronger on **parallel 11530**. (Alexander, PA)

LIBYA — Radio Jamahiriya, **15415** with AA and AA music. (Miller, WA)

MEXICO — Radio Mexico Int'l, **9705** at 0310 in EE. (Newbury, NE) 0553 in SS. (Hill, ID) Radio Educacion, **6185** at 0538 in SS with Latin music. (Miller, WA) 0817 with slow Latin tune. (Foss, AK)

MONACO — Trans World Radio, **7255** at 0600 with religious program in FF. QRM from Deutsche Welle. (Linonis, PA)

MONGOLIA — Voice of Mongolia (presumed) at **12015** at 1200 in presumed EE. IS, music, news. Barely there. (Jeffery, NY)

MOROCCO — Voice of America relay, **15410** at 2010. "Africa World Tonight." (Jeffery, NY)

MOLDOVA — (presumed) Voice of Russia world service, **7180** at 0128 with music, ID, "News in Brief" and "Yours For the Asking." (Jeffery, NY)

NAMIBIA — Namibia Broadcasting Corp., **3290//3270** at 0220 with EE rhythm and blues. Both weak. (Alexander, PA)

NETHERLANDS — Radio Netherlands, **13700** at 1830 with news and features. (Wilson, MA)

NETHERLANDS ANTILLES — Radio Netherlands Bonaire relay, **6165** at 0536 with news in Dutch. (Miller, WA) **9590** at 0440. (Hill, ID) **9820** at 1115. (Northrup, MO)

NEW ZEALAND — Radio New Zealand Int'l, **11905** at 0445 with news, weather, discussion of a major murder trial in New Zealand. (Linonis, PA) **17675** at 0116 with "Cadenza." (Jeffery, NY) 0400. (Foss, AK) 0230. (Newbury, NE)

NIGERIA — Voice of Nigeria, on **7255** monitored at 0514 with "VON Link-up." (Jeffery, NY) 0609 with program about a festival. (Foss, AK)

NORTH KOREA — Radio Pyongyang, **11335** (*in KK? — editor*) at 1220. (Northrup, MO) **15130** at 2300 in KK with music, news, comment. (Linonis, PA)

PAKISTAN — Radio Pakistan, **15335, //11570** at 1700 in probable Urdu with news and variety. (Ziegner, MA) **15485** at 0154 in unidentified language. (Foss, Philippines)

PALU — KHBN/Voice of Hope, **9965** monitored at 1220 with Christian music, EE ID. (Northrup, MO)

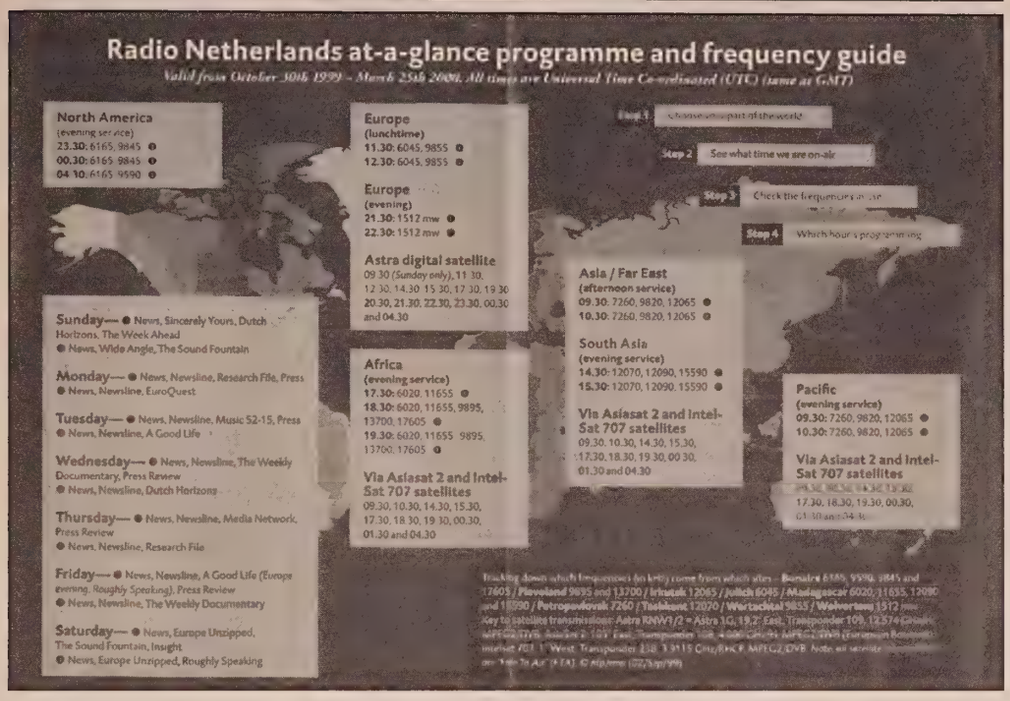
PARAGUAY — Radio Nacional, **9735** monitored at 0100 in SS with rapid-fire announcer, lots of IDs, and possible political speech. (Linonis, PA)

PERU — Radio Chota, Chota, **4890.16** at 0135 with SS announcements, IDs, Peruvian folk music, woman announcer. (Alexander, PA) Radio Peru, San Ignacio, **5637.26**, 0150 in SS with IDs, Peruvian folk music. Down from nominal 5640. (Alexander, PA) Radio Altura, Huarmaca, **4679.71**, 0145 in SS with announcements, IDs, Peruvian folk music, talk by man and woman. Poor, with UTE QRM. (Alexander, PA) Radio Huancabamba, Huancabamba, **6535.75** at 0125 with SS announcements, IDs, Peruvian folk music. (Alexander, PA) Radio Super Nueva Sensacion, **6674**, 0140 in SS with SS announcements, echo effects, Peruvian folk music. (Alexander, PA)

PHILIPPINES — Radio Pilipinas, **15190** monitored at 1924 with news in Tagalog. (Miller, WA) FEBC Radio Int'l, **11635** at 0947 with religious programming. Very weak signal. (Jeffery, NY) Voice of America relay, **9760** at 1519 with EE lesson. (Foss, AK) **15160** at 1400. (Jeffery, NY)

PUERTO RICO — AFRTS, **6458 USB** at 0138 with live sports coverage. (Jeffery, NY)

ROMANIA — Radio Romania Int'l, **11725** monitored at 0215 with talk/specula-


Radio Netherlands at-a-glance programme and frequency guide
Valid from October 30th 1999 – March 25th 2000. All times are Universal Time Co-ordinated (UTC) (same as GMT)
North America
(evening service)
23.30: 6165, 9845
00.30: 6165, 9845
04.30: 6165, 9590
Europe
(lunchtime)
11.30: 6045, 9855
12.30: 6045, 9855
Europe
(evening)
21.30: 1512 mw
22.30: 1512 mw
Astra digital satellite
09.30 (Sunday only), 11.30, 12.30, 14.30, 15.30, 17.30, 19.30, 20.30, 21.30, 22.30, 23.30, 00.30 and 04.30
Africa
(evening service)
17.30: 6020, 11655
18.30: 6020, 11655, 9895, 13700, 17605
19.30: 6020, 11655, 9895, 13700, 17605
Via Asiasat 2 and Intelsat 707 satellites
09.30, 10.30, 14.30, 15.30, 17.30, 18.30, 19.30, 00.30, 01.30 and 04.30
Asia / Far East
(afternoon service)
09.30: 7260, 9820, 12065
10.30: 7260, 9820, 12065
South Asia
(evening service)
14.30: 12070, 12090, 15590
15.30: 12070, 12090, 15590
Via Asiasat 2 and Intelsat 707 satellites
09.30, 10.30, 14.30, 15.30, 17.30, 18.30, 19.30, 00.30, 01.30 and 04.30
Pacific
(evening service)
09.30: 7260, 9820, 12065
10.30: 7260, 9820, 12065
Via Asiasat 2 and Intelsat 707 satellites
17.30, 18.30, 19.30, 00.30, 01.30 and 04.30
Sunday— ● News, Sincerely Yours, Dutch Horizons, The Week Ahead
● News, Wide Angle, The Sound Fountain
Monday— ● News, Newsline, Research File, Press
● News, Newsline, EuroQuest
Tuesday— ● News, Newsline, Music 52-15, Press
● News, Newsline, A Good Life
Wednesday— ● News, Newsline, The Weekly Documentary, Press Review
● News, Newsline, Dutch Horizons
Thursday— ● News, Newsline, Media Network, Press Review
● News, Newsline, Research File
Friday— ● News, Newsline, A Good Life (Europe evening, Roughly Speaking), Press Review
● News, Newsline, The Weekly Documentary
Saturday— ● News, Europe Unzipped, The Sound Fountain, Insight
● News, Europe Unzipped, Roughly Speaking

Tune in Radio Netherlands? It couldn't be easier!

Klaus Spies found this neat old shortwave radio. The dial tells you right where to tune to find London, Paris, etc. How can you miss?

tion about Romania eventually joining NATO. (Linonis, PA)

RUSSIA — Radio Netherlands, **5835**, presumed via Kalinagrad, 2055 to 2125 close. In presumed DD. (Silvi, OH) **13710** via Irkutsk at 0959 with "A Good Life." (Jeffery, NY) Voice of Russia, **7125** at 0330; **15445** at 0300. (Newbury, NE)

SINGAPORE — BBC relay, **9740** heard at 1522. Interviews with Indonesian leaders. (Foss, AK)

SEYCHELLES — Far East Broadcasting Assn., **11640** at 1600 in unidentified language. IS "What a Friend We Have in Jesus." (Miller, WA) **15555** at 0230 in AA or similar language. Pakistani-type music. (Linonis, PA)

SLOVAKIA — Radio Slovakia Int'l, **7300** monitored at 0100 with EE to North America. News and talk about Macedonia and Kosovo. (Linonis, PA)

SOLOMON ISLANDS — Solomon Islands Broadcasting Corp., **5020** at 0736 in Pidgin. (Foss, AK)

SOUTH KOREA — Radio Korea Int'l, **11715** (via Canada) at 1055 with sign-off. (Newbury, NE)

SPAIN — Radio Exterior de Espana, **6055** via Costa Rica, at 0520 with "Window on Spain" and "Radio Waves." (Jeffery, NY)

SRI LANKA — Sri Lanka Broadcasting Corp., **11905** at 0020 in unidentified language. (Ziegner, MA) 0315 in local language. (Brossell, WI) Radio Japan relay, **15590** at 0312 in JJ. (Foss, Philippines)

SWEDEN — Radio Sweden, **9495** at 0305 with news. (Newbury, NE) **9865** in Swedish at 1220. (Northrup, MO)

SWITZERLAND — Swiss Radio Int'l, **9905** (via French Guiana) at 0429 with ID, address, and "Rendezvous." (Foss, AK) **15185** at 2230 with news, comment. (Linonis, PA)

SYRIA — Radio Damascus, **12085** monitored at 2003 with news. Terrible audio. (Wright, MA)

TAIWAN — Radio Taipei Int'l, via WYFR, **5950** at 0200. (Linonis, PA) **5950** at 0200 and **15600** at 2200. (Jeffery, NY) **5950** at 0315. (Newbury, NE)

UGANDA — Radio Uganda, **4976** monitored at 0335 with talk in unidentified language. Mentions of Mandela, Mozambique, ID. (Paszkiewicz, WI)

UNITED ARAB EMIRATES — UAE Radio, Abu Dhabi, **15315** at 1507 with news in AA. (Miller, WA) UAE Radio, Dubai, **13675** at 0343. Off at 0345. (Newbury, NE)

UNITED STATES — WJTC, **9370** at 2259 with music, "USA Radio News," religious programs. (Jeffery, NY) 0015 with religious programs. Frequency varying slightly. (Alexander, PA) 0324 with hymns, "People's Gospel Hour." (Paszkiewicz, WI) AFRTS, **12689.5 USB** at 0132 with music, man announcer. (Jeffery, NY)

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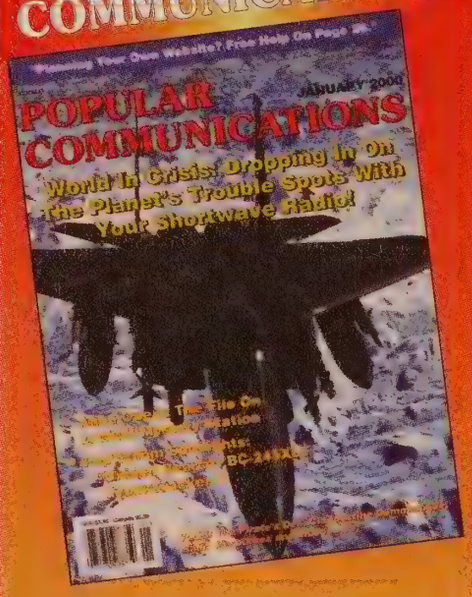
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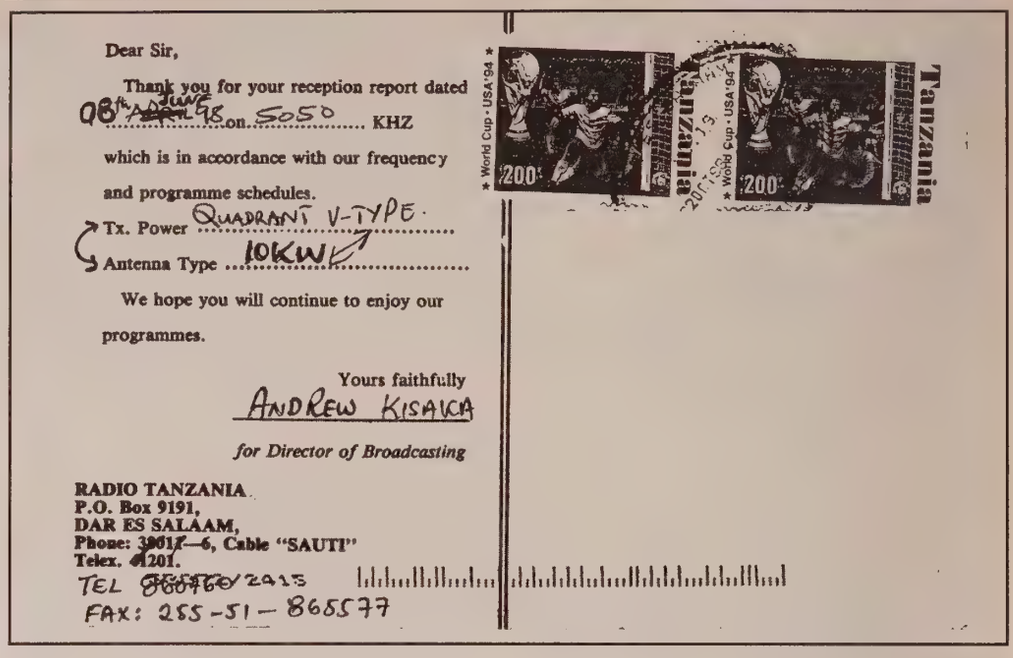

Dear Sir,

Thank you for your reception report dated 08th June 98 on 5050 KHZ which is in accordance with our frequency and programme schedules.

Tx. Power QUADRANT V-TYPE.

Antenna Type 10KW

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Yours faithfully

ANDREW KISAKA

for Director of Broadcasting

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DAR ES SALAAM,
Phone: 39017–6, Cable "SAUTI"
Telex. 41201.
TEL 865760/2913
FAX: 255-51-865577

Robert Brossell got this QSL from Radio Tanzania in 1998.

UNIDENTIFIED — 11332.2 USB monitored at 2311 what sounded like two African men talking and singing to each other in an African language. It wasn't a regular broadcast. (Ziegner, MA)

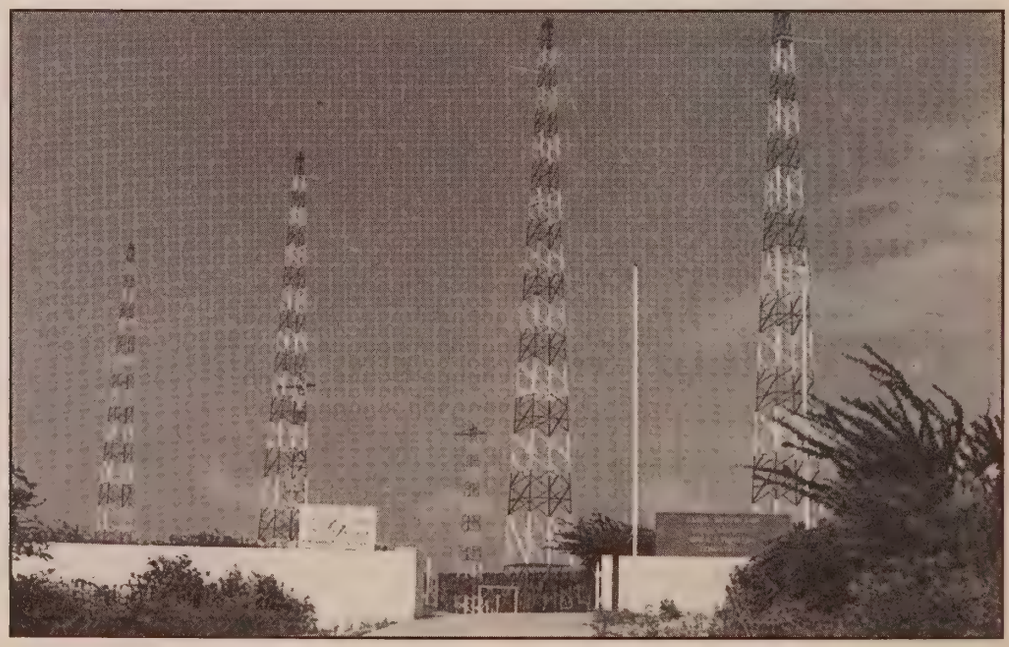
VATICAN — Vatican Radio, **13675** at 0640 in EE. 0651 in unidentified language. (Foss, AK)

YEMEN — Republic of Yemen Radio, **9780** at 0315 in AA. (Brossell, WI)

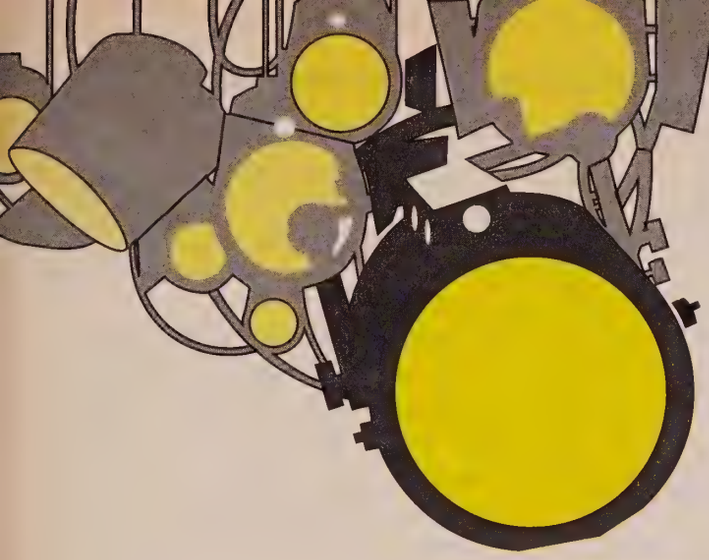
YUGOSLAVIA — Radio Yugoslavia, **9580** at 0430 with very anti-NATO and anti-U.S. commentary. (Linonis, PA)

ZIMBABWE — ZBC Radio 2, **3306** at 0302 sign-on with choral anthem, vernacular talk, local choral music, Afro-pops. Weak in noise. (Alexander, PA) ZBC Radio 4, **4828**, 0300 sign-on with vernacular talk, choral anthem at 0301, Radio 4 ID, church music. Different programming than 3306. (Alexander, PA)

And that does it for this round. Time to grab a glass, fill it with something, and lift it high in salute to the following good people who checked this month: Lee Silvi, Mentor, Ohio; Jack Linonis, West Middlesex, Pennsylvania; Robert Brossell, Pewaukee, Wisconsin; Dave Jeffery, Niagara Falls, New York; Joseph L. Wright, Jamaica Plain, New York; Kenneth Hill, Mountain Home, Idaho; Tricia Ziegner, Westford, Massachusetts; Jim Wilson, Worcester, Massachusetts; Marty Foss, Talkeetna, Alaska; Brian Alexander, Mechanicsburg, Pennsylvania; Mark Northrup, Gladstone, Missouri; Ed Newbury, Kimball, Nebraska; Mike Miller, Issaquah, Washington; Sheryl Paszkiewicz, Manitowoc, Wisconsin, and Sue Wilden, Noblesville, Indiana.



The entrance to the Radio Netherlands relay station on Bonaire, Netherlands Antilles.



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BY ALAN DIXON,
N3HOE/KST8678
<n3hoe@juno.com>

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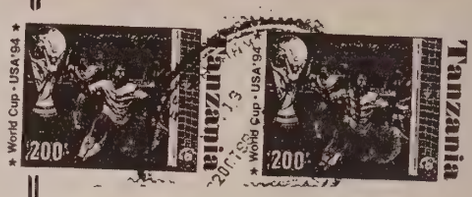

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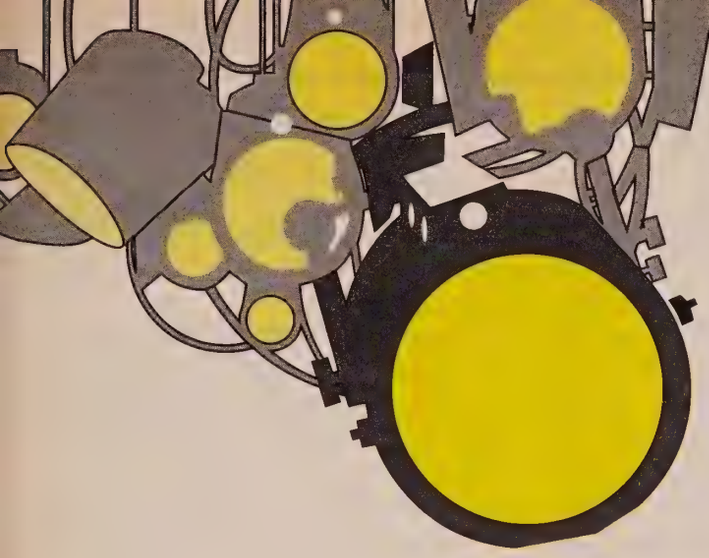

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Midland 79-290 AM-USB/LSB WX CB Transceiver

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Midland's new 79-290 AM/SSB mobile CB is simply a great transceiver.

The transceiver unit measures approximately 2 inches high, by 6-1/4 inches wide, by 7 inches deep. The entire unit is black, including the sleek face panel and controls. This is a full AM and single sideband radio, with all 120 channel configurations. Of course, it runs the full legal output power of four watts on AM and a nifty 12 watts on upper or lower sideband. Again, the max. It has a 10-channel VHF weather band monitor, too. The speaker is bottom-firing, and tone and clarity are excellent. The unit is housed in metal, which is always a good idea for RFI-resisting purposes, especially on a mobile rig. At the back are the antenna connector for the standard PL-259 connector, and an external speaker jack. The back is a cast metal ribbed heat sink for extended SSB transmit operation duty cycle, as found on *commercial* two-way radios. This baby is no toy!

The nicest and most functional features of Midland's 79-290 are found right at the front panel. This is a masterpiece. The black panel has a huge black matrix liquid crystal multifunction display at the center. There are three knob combinations at either end, with an array of various function buttons surrounding the LCD panel left, right, and below it. The operator can choose between channel display or actual frequency display in megahertz on the LCD. Numerals are large and easy-to-read, even in a moving vehicle. The LCD display and the labels on its surrounding function buttons are nicely backlighted when the rig is powered up. Illuminated rings surround each control knob as well. The 79-290 is a real pleasure to operate at night, or in low light. No more guessing if you are reaching for the right button! What could be better? The 79-290's detachable faceplate for security. The center portion of the faceplate, which contains the LCD and in fact, the unit's CPU and its rechargeable memory battery, is removable. The removed panel can be placed in a protective box, included with the radio.

Looking directly at the front panel, the mic jack is at the lower left corner. Directly above that, is an inner-outer volume and squelch control knob assembly. The squelch is the outer ring, and the combination power switch and volume control is the protruding knob. The knob at the upper right is the channel knob. Below that, is another inner-outer knob assembly. Here, the outer ring is a coarse clarifier, sometimes known as delta tune or receiver incremental tuning (RIT), and the protruding ring is a fine clarifier. Talk about precision receive tuning! To the left of the LCD, at the top, is a red TX indicator lamp. Below that, three function buttons. From top down, they operate instant weather (WX), instant Channel 19 (CH19), and last channel recall (LCR). To the right of the display, the front panel release button is up top. As on the left, there are three function buttons here, too. From top down, there is the band selector (BD), which may be better described as a mode selector. Its purpose is to sequentially select among AM, upper sideband, and lower sideband. Below

"What could be better? The 79-290's detachable faceplate for security!"

that is an instant Channel 9 button (CH9) for convenience when a quick change to emergency status is necessary. Below again, is the frequency display button (FRQ). This toggles the display between your choice of channel or frequency.

Eight more buttons appear across the bottom of the display. From left to right, there is a local button (LOC) that switches to a fixed level of reduced receiver gain. The microphone transmit button (MIC) is next to the local button. This reduces the microphone power level in the transmit mode from "boosts TX output" to a fixed level for those times when you might want to back off from the maximum legal modulation limit just a bit. For example, this ensures that your signal does not splatter and blow away the wife and kids following behind you in the other car on a big ski trip to the mountains. Four channel memory buttons are centered under the display. These memory presets can be set to your favorite channels for instant access without having to spin the tuning knob around. Next, is a really nice scan feature button (SC). This function stops on any channel breaking squelch, then delays on channel for 10 seconds after the signal disappears before resuming the scan. This gives the operator time to answer a call heard. Touching the button again exits the scan mode. Farthest on the right is a dual watch control button. The dual watch allows simultaneous scanning of any two CB frequencies, another outstanding feature.

A Look At The Midland 79-290's LCD Display

The LCD display gives a wealth of operational information. It is the command center of the 79-290. Four indicators for the four channel memory buttons line up on the left of the display. The large frequency/channel display area is topped with indicators for AM/USB/LSB modes, WX mode, reduced mic gain mode, and local RF gain mode. There are additional indicators for transmit (TX) and the dual-watch function. To the right, there is a large S/RF bar graph with a sweeping upward curve. This is no mere five or six segment graph, but a continuous sweep of vertical bars for a precision reading. The scale is calibrated in proper "S" units. The only drawback noted for the entire functionality of this fine unit is that the S scale tends to read very high or even top out when the noise floor is high. This may give the impression that the receiver is susceptible to noise, but not so. This appears to be only an inconsequential calibration issue.

As one would expect, for a radio in its class, the 79-290 is feature rich. It has full-time, full-stage noise blanking. An automatic gain control (AGC) is always active as well, providing nearly 10 dB change in audio for 10 to 100.000 (v input levels.) The high performance CPU boasts "pinpoint channel selection and self-adjusting frequency operation." They're not kidding. In testing, the clarifier control was rarely needed for SSB operation. It was useful for separating co-channel stations on SSB, as well as AM. In fact, the clarifier even works on the weather band, making it possible to tune out second, distant, WX stations on the same frequency. According to product literature included with the tested unit, receiver sensitivity is rated at a respectable 0.50 (v on AM, an excellent 0.25 v) on SSB. The unit has a dual-conversion receiver, with adjacent channel rejection rated at 60 dB for AM and SSB, intermodulation distortion for SSB 3rd order >-25 dB, 5th order >-35 dB. SSB carrier suppression is 55 dB, with unwanted sideband rejection at 50 dB. Audio frequency response is 350 to 2500 Hz on AM. The audio output is four watts into eight ohms.

True 11-Meter Communications Rig

Test driving the Midland 79-290 was a delight. A band opening provided a multitude of reception from stations in Canada riding the skip into the southeastern U.S. on SSB in the "upper 40." Testing was done using a 108-inch whip, rear quarter-panel mounted on a sport utility vehicle, with measured SWR at a perfect

Adventist World Radio DX Contest Results

For the fifth time over a period of 13 years, a New Zealander is the world winner in the annual DX contest conducted by Adventist World Radio. He is Mr. Ron Killick of Christchurch in the south island of New Zealand and he has amassed a remarkable total of more than 67,000 QSLs during the past 45 years.

Ron Killick's very large collection is made up mainly of aircraft QSLs, though he also possesses a large number of shortwave, mediumwave, and FM QSLs as well. Ron is the current editor of "Tune In," the regular bulletin of the New Zealand DX Radio Association. He was awarded the 1999 Bronze Medallion and a deluxe copy of Jerry Berg's new book, *On the Short Waves*.

The 1999 DX contest was conducted in conjunction with the AWR DX program, "Wavescan," which invited listeners to submit details of large QSL collections and to describe the longest time they waited to receive a QSL. The "Longest Wait" is 31 years; that's how long Karl-Erik Stridh in Hoganas, Sweden, waited to receive a QSL card from the ship station, Radio Syd. In a strange set of circumstances, he heard the station as a youth, and received a QSL card from one of the staff he befriended 31 years later.

Don Moore in the United States has a total of more than 28 QSLs exhibiting the "Long Wait." In some cases, he later visited the station in Latin America and collected the QSL personally. The other Continental Winners are: Ivan Lopez Alegria in Mexico, Madan Mukherjee in India, and David Gordon in South Africa.

Adventist World Radio also honors a young brother-sister team in Hungary who have a total of just 17 QSLs between them, and a new DXer in the United States who began collecting QSLs only last February.

Wavescan expresses appreciation to each international radio monitor who took part in the contest, and also for the several hundred radio cards that have been added to the AWR Historic Collection. In due course, all specially endorsed QSL cards together with the QSL stamps will be sent out, and those who qualify will receive their special awards.

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". . . the clarifier control was rarely needed for SSB operation."

1:1. SSB reception stayed locked on frequency. In the local (LOC) mode, there was no need to use the squelch at all. Effectively, any station more than about a half-mile away fades quietly, with those nearby booming in. During testing, local mode was found to be excellent for Channel 19 highway use, and *totally* cut out all skip and other unwanted noise, even on days of known high solar disturbances. Then, with another touch of the LOC button, the receiver is back to regular DX operation. When operating this unit, forget about the term "CB radio." The 79-290 is a *true 11-meter HF communications rig*. Given the 12-watts of power on sideband, the SSB operator has surpassed that arbitrary 5-watt "QRP" "low power" barrier. For the seasoned CBer, or for the no-code amateur ready to get a feel for HF sideband operation, this unit is the one to have. It would look great mounted above or below your favorite 2-meter rig, especially since the 79-290's style handsomely complements the styling of many VHF/UHF amateur mobile rigs today. Now that a formal petition has been filed with the FCC to propose allowing 11-meter CB DX communication beyond the present 155-mile DX limit, sideband CB operation could become a lot more exciting in the future. Think CB radio is a technological anachronism? Think again. The SSB mode is the one analog mode seriously challenging digital voice technology in the world of commercial communications radio. SSB is superior in spectral efficiency and energy efficiency. Midland's 79-290 is the 11-meter rig of choice, in everyday use by the digital cellular engineer conducting this "Product Spotlight!"

For more information on Midland's 79-290 mobile CB that retails for $259.95, contact Midland Consumer Electronics, 1670 North Topping Avenue, Kansas City, MO 64120-1224, or E-mail them at <midlndCB@tfs.net>. And for all Midland's CB products, visit them on the Web at <http://www.midlandconsumerradio.com>. ■

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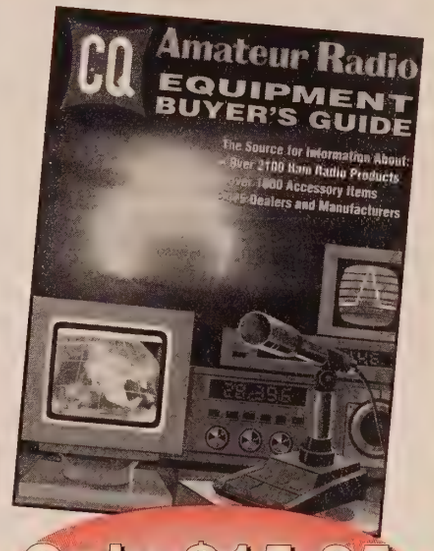

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Your Guide To Shortwave "Utility" Stations

U.S. Coast Guard News, News, And More News

The United States Coast Guard has always been a favorite target of the UTE enthusiast. Whether you are interested in voice or digital, HF FAX, or radioteletype, the U.S. Coast Guard has something to interest you. Thanks to the new solar cycle, the U.S. Coast Guard has been using long-unused HF radio spectrum and the monitors have been noticing.

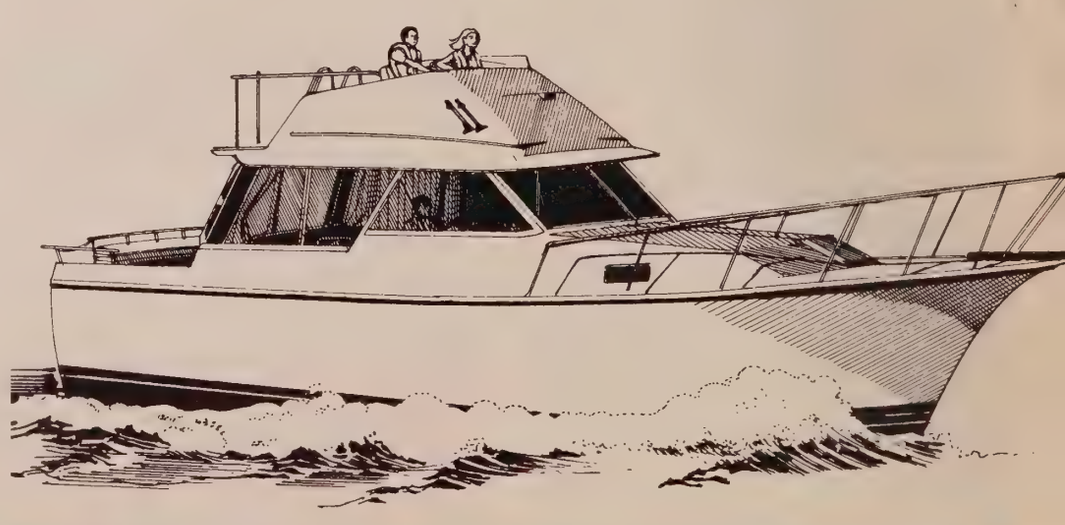
Regardless of time of day, or day of the week, you can find something exciting on the U.S. Coast Guard aviation frequencies. Starting in late October, the USCG began making use of its 15 MHz "off-route" (OR) frequencies, **15082 kHz** and **15088 kHz.** These supplement the long-time standard frequencies of **3119/ 3122 kHz**, **5693/5696 kHz, 8980/8983 kHz,** and **11199/11202 kHz**. The most commonly-logged non-standard "OR" frequencies assigned to the U.S. Coast Guard historically have been **3122 kHz**, **5693 kHz,** and **8980 kHz**. The lower half of these frequency pairs are normally used for discrete comms, phone-patches, or local Air Station comms. Other "OR" frequencies assigned to the U.S. Coast Guard include **3119 kHz**, **4730 kHz**, **4733 kHz**, **6739 kHz**, **6749 kHz**, **9034 kHz**, **9037 kHz**, **11196 kHz**, **11199 kHz**, **13218 kHz**, **13221 kHz**, **15085 kHz**, **17988 kHz**, and **17991 kHz**.

As reported here in the past, the U.S. Coast Guard Pacific Region maintains a HF G-TOR digital net to provide E-mail to its larger cutters. Although operated from the U.S. Coast Guard's Communications Area Master Station Pacific (CAMSPAC) at Point Reyes, California, this net is audible on the U.S. East Coast, as well as around the world. Recently, MidAtlanticDXer logged a new frequency for this net; **8340.2 kHz**. This brings the total number of confirmed active frequencies for this net to five; **6961.2 kHz**, **6964.4 kHz**, **8340.2 kHz**, **13950.0 kHz**, and **13953.2 kHz**. Other previously-active frequencies have included **7442.3 kHz** and **9302.7KHz**. The coast station identifies as either **NMC** or **NMC1,** while the Coast Guard cutters are identified using their international callsigns. **NOJ**: U.S. Coast Guard Communications Station Kodiak, AK, was previously active in this net on **9302.7 kHz**, but has not been logged since late in 1998. For the most up-to-date information on this net, check out MidAtlanticDXer's Website at **http://www.escape.com/~utedx/cggtor.html**.

As reported back in the October issue of "Communications Confidential," the U.S. Coast Guard had begun the installation and testing of NAVTEX transmitters at Coast Guard Station Savannah, Georgia. This station went fully operational at the end of October 1999. Designed to help fill the gap between the NAVTEX transmitters in Chesapeake, Virginia, and Miami, Florida, this station was initially selected to provide reports on Right Whale locations and migration patterns. However, the U.S. Coast Guard has decided to provide full NAVTEX support and this station will carry the full spectrum of NAVTEX traffic. Coast Guard Station Savannah transmits with the NAVTEX station identifier "E" and is active at 0040, 0440, 0840, 1240, 1640, and 2040 (UTC). As is standard for U.S. NAVTEX stations, Coast Guard Station Savannah transmits on **518 kHz**.

Additional news regarding NAVTEX finds that the National Weather Service is beginning to tailor weather reports specifically for the NAVTEX system. This means that the users (and monitors!) of NAVTEX broadcasts will find more informative weather in a format which will save effort and broadcast time on the part of the U.S. Coast Guard.

The U.S. Coast Guard continues its implementation of full GMDSS (Global Maritime Distress and Selective-calling System) support as required by international treaty. The U.S. Coast Guard already provides full coverage of sea areas "A3" (as defined by the treaty: more than 150 miles from shore and between 70N and 70S). The problem with full implementation of GMDSS has been with sea areas "A1" (coastline to approx. 20nm) and "A2" (20nm to 150nm). Sea Area "A1" will be covered by future upgrades to the VHF network known as the National Distress and Response System. However, the deadline for declaring complete coverage of sea area "A2" is rapidly approaching and the U.S. Coast Guard is going ahead with full plans for the implementation of coverage. Coverage of sea area "A2" will be via MF monitoring and communication. In 1997 and 1998, the U.S. Coast Guard installed HF and MF Digital Selective Calling (DSC) systems at all of the Communication Stations (Boston, Miami, New Orleans, Kodiak, and Honolulu) and Communication Area Master Stations (Chesapeake and Point Reyes). In addition, nine U.S. Coast Guard Stations



BY RICHARD "RD" BAKER <CommConf@concentric.net> and MIKE FINK <mfink@apk.net>

(Atlantic City, Cape Hatteras, Southwest Harbor, Eastern Shore, Mayport, Long Island Sound, New York, Fort Macon, and Astoria) received the MF components of the DSC system. Following installation, numerous problems were discovered with the MF system and implementation was placed on hold. Following two years of investigation, the U.S. Coast Guard has decided to continue the installation of the MF DSC equipment into 19 additional U.S. Coast Guard Stations. This installation will allow for complete coverage of sea area "A2" by the established deadline of March 1, 2000. As the U.S. Coast Guard finishes installation of the MF DSC systems, look for extensive testing on the primary MF DSC frequency of **2187.5 kHz**.

Lastly, the U.S. Coast Guard has announced changes to the broadcast schedule for some of the Pacific-based stations. The HF Facsimile broadcasts from Communications Area Master Station Pacific (CAMSPAC) now contains additional charts, which were requested by the National Weather Service. This was scheduled to be effective on November 30. Additional information can be found at **http://www.uscg.mil/pacarea/camspac/wx/NMCbcst.html**. In addition, CAMSPAC has reduced the number of SITOR-B broadcasts transmitted from U.S. Coast Guard Communication Station Honolulu (**c/s: NMO**). The broadcasts are now sent at 0730z and 1330z on **8416.5 kHz** and **12579 kHz**, and at 0130z and 2030z on the same two frequencies plus **22376 kHz**.

German Maritime Longwave Special Broadcast

In recognition of the 100th anniversary of maritime radio in Germany, the German Weather Service is conducting a special event. . . actually four of them. News of this event did not reach yours truly until too late for the first two dates, but the last two are still to come. At 2230 UTC on 14 January and 11 February 2000, station DDH47 which broadcasts on **147.3 kHz**, will be transmitting a special broadcast to the public. Using Morse Code, **DDH47** will broadcast short messages in a variety of languages to recognize the inventors of wireless radio. The January 14th broadcast is scheduled for 1 kW of power, while the February 11 broadcast is slated for 15 kW. The time and frequency obviously favor our European readers. However, with winter in full swing, there is the slim possibility of reception by our readers on the U.S. East Coast. Reception posts are encouraged. Include the name of the pioneer mentioned during the transmission, along with an address tag and postage (two IRCs for Europe and three IRCs for overseas locations) to the address listed in **Table 1**. The deadline for submission of reception reports is March 31. Everyone who provides an accurate reception report will receive a Special Event Certificate.

Table 1

Reception reports for the DDH47 special event should be sent to:

Deutscher Wetterdienst,
Amateurfunkgruppe,
Bernhard Nocht Str. 76,
D 20359 Hamburg
Germany

Other News

Ron Perron, the MidAtlanticDXer, and other monitors report that there has been a dramatic increase in **Drug Enforcement Agency (DEA) traffic** on **19131 kHz** in recent months. Besides the DEA-contracted communications center at Cedar Rapids, Iowa, (**c/s: ATLAS**), many DEA aircraft and agents have been active on the net. The callword **FLINT** has long been associated with DEA aircraft, however recent loggings indicate that this may be incorrect. It seems that the **FLINT** callsign is assigned to agents, with their badge/service (?) number following the callword. This is based upon several intercepts in which multiple **FLINTs** were referenced as being on the same plane. In addition, several new stations have made "appearances" as regulars on this net. Among the "new" aircraft callsigns active are **MUSTANG**, **LONGHORN,** and **WRANGLER**. Of these, only **LONGHORN** has a possible confirmation of identity. It seems that units using this callword may belong to the State Department or U.S. Customs and that they use this callword for flights from Florida to Central and South America. Besides the new callsigns, many channel references have been made for the (still!) undiscovered SIERRA LIMA frequency, as well as a newly-referenced channel TANGO. If anyone has any frequency confirmations for SIERRA LIMA or TANGO, I would love to hear from you. Drop me a line at the E-mail address at the bottom of the column.

The folks at Klingenfuss Publications have announced the release of three new products. The 2000 editions of the *Super Frequency List* on CD-ROM, the *Guide to Utility Radio Stations*, and the *Shortwave Frequency Guide*. The CD-ROM contains more than 38,700 entries covering both broadcast and utility stations. The *Shortwave Frequency Guide* contains all of the latest schedules for clandestine, domestic, and international broadcast stations worldwide. This book also covers UTE stations. The *Guide to Utility Radio Stations* (now in its 18th edition) includes up-to-date data from live monitoring sessions around the world. The extent of the UTE station coverage in this publication is unmatched by any other publication available anywhere. All three products are great additions to the radio shack. For more information, or to place orders, check out Klingenfuss Publications at **http://ourworld.compuserve.com/homepages/klingenfuss/**.

Back in December, I shared some information from Chris Smolinski regarding Aeronautical Radio Inc.'s High Frequency Data Link (a.k.a.: HF ACARS). I would like to thank Chris once again for sharing the information. For those of you interested in HF ACARS, you might like to know that the first decoder for HF ACARS is now available from Hoka Electronics. The Hoka Code 30-A Decoder and the Code 300-A Professional Decoder both support HF ACARS. In addition, the newest version of the Code 3 Gold Professional will also support the mode. While the Code 30-A and the Code 300-A are both expensive decoders ($2,000 and up), the Code 3 Gold Professional is priced within the range of many hobbyists. Check out the Hoka Website at **http://www.hoka.net** for more details. You can also get more details from Computer Aided Technologies at **http://www.scancat.com/**. The folks at Computer Aided Technologies serve as Hoka's agent and distributor here in America. Lastly, Chris Smolinski is currently developing a HF ACARS module for his Macintosh-based MultiMode decoder software. For more information and progress updates, log onto **http://www.blackcatsystems.com**.

Reader Mail

Don Hallenbeck writes from Maine with information regarding the Navy Communications Station at Cutler, Maine

Abbreviations Used For Intercepts

AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/led/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
tfc	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

(**c/s: NAA**). It seems that the U.S. Navy recently sent an evaluation team to Cutler to consider the future of this Communications Station. It seems that the Senators from Maine are attempting to forestall any attempt on the part of the Secretary of Defense to close the facility. As one of the East Coast's few remaining Navy Communication Stations (Saddlebunch Key (Key West **c/s: NAR**), Norfolk (**c/s: NAM**), and Roosevelt Roads (**c/s: NRR**) are others), Cutler is an important resource and will most likely avoid any future cuts. However, apparently the Senators believe in being well-informed rather than caught unprepared for any possible future reductions. Thanks, Don, for the information.

Roland "Mac" McCormick III sent an E-mail from Southern Georgia with information about the location of a new Coast Guard cutter. The U.S. Coast Guard Cutter (WPB-87310) has arrived at its new home port at U.S. Coast Guard Station Tybee Island, Georgia. The new 87-foot cutters have a crew of 10 and are commanded by a Chief Petty Officer. The USCGC *Tarpon* replaces the USCGC *Key Largo* (WPB-1324), which has now been transferred to U.S. Coast Guard Group Key West.

The MidAtlanticDXer provides a useful URL for those of you who enjoy monitoring civil aviation. The U.S. Census Bureau maintains a listing of international air carriers, along with their two and three-letter abbreviations. The main page for the information is located at **http://www.census.gov/foreign-trade/www/schedules.html**. From this page, you can choose lists sorted by carrier name, nationality, two- or three-letter abbreviation. While the information is dated October 1997, most of it is of use to civil aviation monitors, most especially those just getting started in the hobby.

Next, a new contributor checks-in for the first time from San Jose, California. Richard M. McClung reports in with his first set of logs for the column. Richard uses a variety of equipment for his monitoring including Collins R-392/URR and R-648/ARR receivers, a SEA 330 Marine transceiver, the Timewave DSP559zx Digital Signal Processor, as well as a 100-ft. doublet and a 24' vertical antenna. Thanks, Richard, for the logs and we look forward to hearing from you again soon!

Now, on with the show.

UTE Loggings SSB/CW/DIGITAL

245: ILT, Albuquerque, NM, at 0103. (BF-NM)
278: CEP, Ruidoso, NM, at 0145. (BF-NM)
404: IUB: Institute for Emergency Medicine NDB, Baltimore, at 2001 in CW. (MADX-MD)
412: BWR, Alpine, TX, at 0108. (BF-NM)
2136: Czech stn w/9-tone callup + counting 50-59, at 0700 in USB. (AB-NL)
2182: CG Group Mayport, FL, at 0651 answering unid vessel that was heard clg CG Radio Boston, MA, for reception check only and gone. (JK-NY)
2670: CG Group Woods Hole, MA, at 0327 w/broadcast on fishing vessel Endurance in distress. (RP-MD) NMF44, USCG Group Southwest Harbor, ME, at 2335 w/MIB. All in USB. (MADX-MD)
2749: Canadian CG Halifax at 0013 w/EE wx forecasts for Canadian Maritime Provinces (RP-MD) VCG, Canadian Coast Guard MCTS Riviere-au-Renard at 0438 w/MIB broadcasting from Cap-au-Meules site. VAR, MCTS Fundy at 1050 w/MIB, also at 0141. VCS, Canadian Coast Guard MCTS Halifax at 0110 w/MIB in EE and FF. All in USB. (MADX-MD)
3322: Russian Navy Ustinov in CW w/channel marker at 2108. (AB-NL)
3521: Spanish Navy at 2320 in USB, briefly w/EOK (67EOK) clg unreadable, weak. (AWH-FL)
4024: VLDR, Czech military in CW at 2012 w/5FG's. VLDR, Czech military clg J7VT + 5FG's at 2245, J7VT answers on same freq. All in CW. (AB-NL)
4032: ZSO, S.A. Navy, Durban, South Africa in RTTY 75/170 at 1730. Steady Mark w/ "S42Dxxx" every two minutes (where xxx is the number of the last message sent) (JD-UK)
4245: UFN, Novorossiysk Radio at 2200 in CW w/ID and tfc list w/freqs as 4245//8571//12891//17141//22501. (HOOD-UK)
4355.4: Skycom Telecom Ltd: Blackpool, England at 0235 in FAX 120/576 w/strong signal (MADX-MD)
4396: WLO wx BC at 0107, then traffic list, WLO holding tfc for WC3384, Lady Gabrielle. (MF-OH)
4717.6: WHISKEY 0 OSCAR clg OSCAR 7 INDIA at 2052 in USB w/radio check no joy followed at 2100 by r/c adv O7I to use long ??? then reported as being loud and clear. (SD-AU)
4739: RESCUE 714 clg Halifax Military w/pos rep at 0105, discussing flare sighting by the vsl *Majestic Mariner*. I think. RESCUE 314 passing rep of gunshots?, by the Majestic Mariner at 0115. GOLDENHAWK clg S4JG, nothing heard at 0005. All in USB. *(GOLDENHAWK is the TSCC at NAS BRUNSWICK, S4JG is reportedly a generic call for any U.S. Navy P-3 ORION aircraft —Ed)* (MF-OH)
4742: ARCHITECT (RAF Command) at 0202 w/airfield conditions BC. ARCHITECT at 0548 w/aircraft Y8G. Has difficulty hearing Y8G and switches to 5714. All in USB. (RP-MD)
4767.7: CCS, Chilean Navy Santiago at 0820 in RTTY 100/850 w/5LGs. (IJ-NZ)
4891: Numbers Lady at 1800. (AB2)
5163: FDY, French airforce Orleans, F at 0819 in RTTY 50 bd w/test tape. (AB-NL)
5400: YOG37, Bucharest Meteo at 0512 in RTTY 50/400 w/meteo tfc. (MADX-MD)
5598: American 50 at 0443 wkg Shanwick. QTH 55N 30W. Britannia 176B monitored at 0445 wkg Santa Maria, selcal ck JR-AD (G-OBYB B767). Tower 331 at 0446 wkg Gander. Monarch 35 at 0448 wkg Santa Maria. Delta 1297 at 0455 wkg Gander. Delta 210 at 0458 wkg Gander, selcal ck FG-JK. United 904 at 0500 wkg Shanwick. All in USB. (MADX-MD)
5680: DRHK (FGS Mosel — A512) at 1716 in r/c w/Glucksburg Rescue. Koksidje Rescue at 1156 w/Belgian Air Force 91. Kinloss Alternative at 1218 w/Kinloss Primary — Testing lines One, Two, and Three. Pave 94 Maintenance (USAF) at 1234 in r/c w/Kinloss. All in USB. (AG-UK)
5687: Warship ANZAC (HMAS Anzac, ANZAC-class destroyer) clg Air Force Sydney at 1955 in USB for emergency contact test requesting classified discreet then broadcast 12 grps of 3fgs followed by issue of CD. (SD-AU)
5692: THUNDER 1, USCG at 0045 in USB w/PERSISTANT re boarding exercise, also CG 6031. (ALS-FL) PERSISTANT w/Thunder 1 at 0236 asking if they are alongside at the moment. Requests 15 minute comms checks. (RP-MD)
5696: KING 21 clg CAMSLANT Chesapeake for r/c monitored at 2316. (MR-MN) RESCUE 6041 wkg CAMSLANT for 406 MHz EPIRB search. 6041 recovered EPIRB and passed info to D7 via CAMSLANT. D7 advised that EPRIB was reported lost previous week. (RP1-GA) Maryland Air Guard 515 (probable C-130) at 1327 w/CAMSLANT in r/c. All in USB. (RP-MD)
5700.4: T1B wkg HABITAT re: being N3P's relief. Also HABITAT advising T1B to contact WESTERN SKY (came up 8971, mostly green). (RP1)
5788: HOTEL HOTEL and X-RAY JULIET ECHO, Australian military net possibly E.Timor related at 0752 in USB passing long groups of Alpha-Numerics and r/c. (IJ-NZ)
6246.6: Caribbean Narcotic Interdiction Net at 0115 in USB w/GREMLIN 03 clg ORANGE GUARD, in clear. Nighttime QSO

from 11178, GANTSEC on channel at times also. (AWH-FL)
6316.5: KHF, USCG Agana, Guam at 0931 in CW w/stn marker. (EW-AU) *(KHF is the Globe Wireless Station at Guam, not the USCG whose callsign is NRV — Ed)*
6318.5: UFL, Vladivostok Radio, Urs at 0935 in ARQ w/wx. (EW-AU)
6348: FUE, French Navy Brest at 0426 in RTTY 150/790 w/call tape "FAA de FUE" + RYs and SGs (MADX-MD)
6502: TBB6, Turkish Navy Ankara, TUR at 2338 in CW clg TBDJ. (AB-NL)
6628: New York Radio wkg various flights, including Delta 277 and Delta 126, w/SELCAL checks at 0059 in USB. (SW-IN)
6694: 8WH (Canadian CP-140) at 0203 in USB w/Halifax military in pp w/MOC (Ministry of Commerce) to receive Y2K SAR Exercise Scenario. Canadian warships St. Johns, Fredricton, and Summerside also involved in the exercise. (RP-MD) RESCUE 306 via Halifax Military at 0415 w/pp to RCC regarding patient rescued from waters of Northumberland Strait (between P.E.I. and Nova Scotia/New Brunswick). Man overboard from vessel whose last position was 42.27.5N 65.30.9W. 306 indicated four-hours flight time in the Northumberland Strait, was advised to land at (sounded like Buctouche) for fuel. (JK-NY)
6736: Kinloss at 1528 w/Echo Zero Whiskey (French Navy a/c) and Rescue 193 re 193 has just lifted Scillies and posn of vessel is 4852N 00946W. (AG-UK)
6751: JJG8, JMSDF Atsugi NAS Japan at 0830 in USB w/radio checks. (IJ-NZ)
6815.6: GANTSEC, HERC 02, SHARK 24 (WPB-1324, USCGC Key Largo) in mostly green comms reference interdiction pursuit. SHARK 24 ordered in the red to not board suspect vessel until Statement of No Objection acquired from Netherlands. All in USB. (RP1-GA)
7535: *USS Briscoe* (DD-977) monitored at 1740 in USB wkg SESEF Norfolk in the clear and in ANDVT w/check of ANDVT. *USS Estocin* (FFG-15) at 1619 wkg SESEF Norfolk. Radio checks in USB, LSB, ISB, and AM. (MADX-MD)
7600: 76 BRAVO and 77, Canadian? at 2310 in USB and RTTY. (JLM-KY)
7612: 0 ALPHA, Australian military relief ops Bougainville/PNG w/ "this is 0 ALPHA roger, out" at 0703 in USB. 555 clg SIERRA BRAVO adv he is 5 mikes from his location at 0735. (SD-AU)
7767: PAPA VICTOR 01 and YANKEE SIERRA 7, Patrol Boat net Papua New Guinea at 0650 in USB w/radio checks and standing by for WX forecasts. (IJ-NZ)
7827.8: FDI22: FAF Narbonne at 0025 in RTTY 50/580 w/"le brick" test tape. QRT at 0029. (MADX-MD)
8156: BAHAMAS Self Defense Forces at 1547 in USB w/C6NU wkg CORAL HARBOUR BASE, passing radiograms, f/g. BASE clg C6ML at 1709, no reply but then C6ML called back at 1710, BASE passed formal radiogram. Said this was "channel 11." (AWH-FL)
8188: Swedish Rhapsody (E23) numbers station in progress at 1226 in USB. (SD-AU)
8335: DRAV, (FGS Karlsruhe, F-212, 122-class Frigate) at 2248 w/DHJ 59 (German Navy, Wilhelmshaven) in r/c. DRHJ, (FGS Elbe, Tender A-511) at 0136 w/DHJ 59 (German Navy, Wilhelmshaven) in voice and RTTY checks. All in USB. (RP-MD)
8340.2: NMC, USCG CAMSPAC at 0154 in GTOR 100/170 clg NDWA, USCGC Morgenthau WHEC-722 and NYCQ, USCGC Boutwell WHEC-719. New frequency for this net. (MADX-MD)
8345: UCNH, TKH Peregrinus at 0815 in CW msg in EE, w/eta for Bruges via UHP5 (is ex J8HB9). (HOOD-UK)
8397: UCMQ, TKH Mikhail Cheremnykh in ARQ at 0708 w/OBS rpt to UCE. (HOOD-UK)
8400.6: UAWF, Vetluga (AG-1361) monitored at 2110 in RTTY 50/170 w/admin to RKLM. (HOOD-UK)
8447: RTTY test tape from FUF w/ YRYRYRY and such at 0218. (SW-IN)
8470.8: Unid at 0428 in unid 195.3/850 4-tone signal w/tones at -300/-100/+100/+300. (MADX-MD)
8502: GYA RN, Whitehall, London, G in RTTY 75/850 "04 11 GYA." This is NOT the same CARB as on various other freqs in the maritime bands but presumably to do with an exercise. (JD-UK)
8505: UFZ, Vladivostok Radio, Urs at 1030 in CW w/stn marker. (EW-AU)
8506: XSX, Chi-Lung Radio, Tai at 0932 in CW w/stn marker. (EW-AU)
8511: XSW, Kaohshiung Radio, Tai at 1035 in CW w/stn marker. (EW-AU)
8565: D3E, in CW w/tfc marker from 0545 to 0555. (RMC-CA)
8573: CLA32, Havana, Cuba, in CW w/tfc marker from 0530 to 0535. (RMC-CA)
8574: LGB, Rogaland, Norway in CW w/tfc marker from 0130-0135. (RMC-CA)
8584: VRX, Hong Kong Radio, Chn at 1043 in CW w/stn marker. (EW-AU)
8698: 9MG2, Penang Radio, Mla at 1013 in CW w/stn marker. (EW-AU)
8737: 5BA42, Cyprus Radio monitored at 0324 in USB w/YL voice mirror in Greek and EE. (MADX-MD)
8743: HSA, Bangkok Radio, at 1048 in USB w/wx. (EW-AU)
8764: CAMSLANT clg and apparently raising *USS San Juan* for short QSO, *USS San Juan* was probably on 8240 but I did not get a chance to listen there for them before the QSO ended at 0642. (JK-NY)
8776: BACK PAGE w/30 character EAM //13155 at 0146. (JJ-CA)
8960: Conrad 308 wkg Portishead Aeradio England at 0656 in USB w/pp to Maintenance OPs. Had shutdown No. 1 engine and heading to Madrid. (IJ-NZ)
8968: RR1, clg F6T for r/c at 2032 in USB followed by Z4F advising HOMER time at 0153. 3TM clg F6T at 0959 in USB adv BOOK RULER MINNIE, NEST 0924. (SD-AU)
8971: SCORPION 08, GREMLIN 05, 7RR, BLUE STAR. SCORPION was being directed to various TOIs (Targets of Interest) by GREMLIN 05 and checking in w/posn reports to 7RR (probable RN ship). Also both SCORPION and GREMLIN w/posn reports to BLUE STAR. (RP1-GA) WB 774 (probable P-3, Naval Force Aircraft Test Sqdn, Patuxent River) at 2110 w/FIDDLE (TSCC NAS Jacksonville) clearing out of area for homeplate. Requests call be made to GIANT KILLER (FACSFAC, Oceana VA) informing them that WB 774 is inbound to checkpoint Bacchus. BLUE STAR (TSCC Roosevelt Roads, PR) at 1103 w/SCORPION 03 (USN P-3C). 03 flying at 1,000 ft. and has strong ELT signal on both VHF and UHF. BLUE STAR relays for JIATF-East (Joint Interagency Task Force-East) requests information on ELT. At 1105, SCORPION reports that ELT signal has stopped. During this exchange, 03 asked station OSCAR (British accent) if they were receiving the ELT signal. (RP-MD) WESTERN SKY wkg T1B in red and green, posn reports in red. T1B also logged on 5700.4 a few minutes later wkg HABITAT. All in USB. (RP1)
8974: Air Force Darwin, Australian Air Force at 1045 w/Army East Timor in r/c. Switch to 8971. Air Force Auckland, New Zealand Air Force at 1109 w/Kiwi 855 (RNZAF international flt). References B.O.R., Auckland as addressee for information and reports ops normal and requests selcal check. Air Force Perth at 1211 w/Air Force Sydney request that he assume radio guard. (RP-MD) KIWI 363 and RNZAF Auckland New Zealand at 0631 in USB w/Ops normal. TEPID 401 and RNZAF Auckland New Zealand at 0934 w/OPs normal. All in USB. (IJ-NZ)
8983: CG 2132 (HU-25, ATC Mobile) at 1518 w/CAMSLANT Chesapeake who relays that District 8 (New Orleans) wants to know if they are in any immediate danger. CG 2132 not heard but answer apparently "no" since CAMSLANT then request normal ops reports on the 1/2 hour. CG 2135 (HU-25, CGAS Miami) at 2148 w/CAMSLANT reporting airborne from CGAS Miami for local training. CG 1718 (HC-130, CGAS Clearwater) at 0035 w/CAMSLANT Chesapeake request contact OAK GROVE Control (ROCC, Tyndall AFB) and advise him that CG 1718 will be entering his ADIZ in about 15 minutes in the area of Venice, FL. All in USB. (RP-MD)
8996: Offutt w/EAM traffic for MAINSAIL, 3HGOGP. . . at 0035. (JJ-CA)
9001: Echo Zero Whiskey at 1550 to Kinloss and Rescue 193 reports now over fishing boat at posn 4845N 00938W. (AG-UK)
9007: CANFORCE 3903 w/Trenton military at 1431 in USB in pp w/Trenton Metro. Landing at Trenton and wants wx forecasts for Indianapolis and Great Bend, Kansas, his follow-on destinations. (RP-MD)
9010: ARCHITECT (RAF Command) at 0141 in USB w/VOLMET. (RP-MD)
9025: Lajes Field EAM at 2245 in USB hearing EAMs here fairly regularly. (JLM-KY)
9041.6: 5YE, Nairobi Radio, Ken at 2350 in

RTTY 100/850 w/weather. (EW-AU)
9045: 5YE, Nairobi Radio, Ken at 1948 w/FAX 120/576 wx map. (EW-AU)
9076.2: Manila Radio, Phl at 0935 in ARQ 100/170 w/Philippines airlines w/brief msgs. (EW-AU)
9081.5: YANKEE ALPHA SIERRA 4, UNID Military stn at 0758 in USB clg (SS accent) and PSK bursts. (IJ-NZ)
9120: PACOM 01 wkg Andrews VIP w/periodic signal checks at 0259. (JJ-CA)
9151: TELSTRA Landmobile Phone QLD, Australia at 0905 in USB, 2 OMs w/chit-chat. One of them was arranging for the RACQ tow his broken down vehicle. (IJ-NZ)
9240: DELTA MIKE, PNGDF Patrol Boat at 0950 in USB w/long routine msgs. Scoured Tasman and Mortlock Islands, Topics simplex radio network meeting of villagers, arresting of all persons processing sea cucumbers and shark fins, regulations governing our marine resources, effects of reef blasting and misc. From 1500 to 1600, the Nugurea Community school children were given the opportunity to visit the ship. (IJ-NZ)
9272: Unid, FAPSI in RTTY 75/500 comes on at 1630 clg KMI and sending msgs w/link number 00169, daily, Mon–Fri. (JD-UK)
10204: TANGERINE w/DART BOARD at 2259 in USB checking into net. DART BOARD authenticates WBW w/Oscar and checks him into the net. DART BOARD then asks if TANGERINES has EAM FY2ZIR and FYWIAN. TANGERINE confirms that both EAMs received, asks if TANGERINE has contact w/BAG MONEY, adv have already contacted each other on 8992. (RP-MD)
10355: 4XZ, Tel Aviv Radio, Isr at 2053 in CW w/5L grps. (EW-AU)
10484.3: MFA, Sofia in RTTY 500/200 w/press in Bulgarian at 0900. (JD-UK)
10583: CIA counting stn at 0545 in USB, YL w/numbers. (IJ-NZ)
10660: ARIA Control and ABNORMAL 20 wkg ARIA 1. // 14987 and duplexed 15793 // also mentioned 7 MHz at 0328. (JJ-CA)
10777: Philippine military net at 0924 in USB w/OM spelling out Msg. Ready request, Go ahead, Continual initial exercise, Received 5, For this report, etc. (IJ-NZ)
10780: RAZOR 32 (E-8C JSTARS, Robins AFB 93ACW/93TS) w/Cape Radio at 1452 req pp to commercial number. DARKSTAR TANGO (Tinker AFB E-3 552ACW/965 ACS AWACS) w/Cape Radio at 1521 req pp to Tinker Radar Maint. Reports RTMP display in-op, rcvs fault isolation instructions. KING 22 (NY-ANG Gabreski, Long Island, 106RQW C-130) w/Cape Radio at 0306 rqsts relay of msg re; enroute from Patrick AFB to Moody AFB. REACH JHL4 (Air Transport Intl, Little Rock DC-8, contractor acft) w/Cape Radio at 0322 w/pp to Little Rock Ops w/ETA to Antigua of 0945. KING 22 Cape Radio wkg KING 22 at 0329 w/pp Moody AFB. All in USB. (ALS-FL)
10973: HBD20, MFA Berne, SUI at 0838 in ARQ 100bd w/sign-off. (AB-NL)
11059: NAVY 49676 and USAF Andrews AFB MD at 0736 in USB w/PP to USMC Kaneohe Bay Base OPs. (IJ-NZ)
11140: Australian Defense Forces Radio (via VHC RAN Belconnen XMTers) at 0955 in USB w/moral Msgs for the crews onboard the *HMAS Warrnambool, ANZAC, Tobruk, Adelaide* and *Success.* All of those ships are on E. Timor related duties. (IJ-NZ)
11143: QUEBEC NOVEMBER ROMEO and PAPA BRAVO GULF, Australian military net Possibly E. Timor related at 0724 in USB trying to co-ordinate a CRATT link on 11145. Your msg was half garbled over. (IJ-NZ)
11147.7: 8WB17, MFA New Delhi India at 1102 in RTTY 50/500 clg 8WA11 w/RYRY, QUICK BROWN FOX Tests and PL REPLY SPOT SLOT ORG QRU. (IJ-NZ)
11175: ASCOT 3358 w/Mainsail for wx forecasts, at 2213, 3358 had UK/Australian accent. (MR-MN) Andrews w/pp for REACH 116 SIERRA to Charleston CP. 116S rep a lighting strike on the a/c, no indications of damage. The ETA to Charleston was 2015. All in USB. (SI-VA)
11178: Falcon 01 (Dutch Navy aircraft, Curacao) at 2105 w/PJK (Dutch Navy, Suffisant Curacao) w/encoded position report. (RP-MD) AUSSIE 126: and RNZAF Auckland New Zealand at 0502 w/roger out. PJK and GANTSEC, DN Curacao Netherland Antilles and USCG San Juan Puerto Rico at 0435 both wkg VICTOR ECHO. (IJ-NZ) AUSSIE 126 clg Air Force Auckland w/ radio check. All in USB. (SD-AU)
11181: MANDRILL wkg McClellan in USB for a FLASH OVERRIDE PATTERN 3 TEST CONFERENCE. Following authentication's and "sirens" McClellan advised that the conference was convened, however, the conference was then canceled by MANDRILL due to equipment problems at 2147. (JJ-CA)
11187: QANTAS 83 monitored at 2327 wkg Air Force Darwin requesting pp to QANTAS OPS. (SD-AU) ARMY E.Timor and RAAF Darwin, NT Australia at 0835 w/moral pp. All in USB. (IJ-NZ)
11205: ARCHITECT (RAF Command) at 1102 in USB w/airfield conditions report. (RP-MD)
11208: ENVOY 611 clg Air Force Sydney w/pp to 36(?) SQN OPS monitored at 0518 in USB. (SD-AU)
11214: Bunk 16 (probable MC-130, Hurlburt) at 2058 w/Trenton military in pp w/Eglin meteo w/wx for Eglin, Hurlburt and Montgomery at 2150. Also pp w/Shadow Ops DSN 872-XXXX at Eglin. Trenton military w/Sentry 30 (E-3B AWACS, Tinker AFB-not heard) at 1852 in pp w/radar maintenance who has trouble hearing Sentry 30. All in USB. (RP-MD)
11217: JULIET ALPHA and JULIET MIKE, French Military New Caledonia or French Polynesia at 0629 w/comms in FF. ARCHITECT, RAF Bampton England at 0740 w/wx forecasts. All in USB. (IJ-NZ)
11232: DRAGNET UNIFORM (E-3B, AWACS, Tinker)at 1427 w/Trenton military in pp w/CHALLENGER (unid) w/Tab Delta Part Alpha report. Canforce 1849 (unid) at 2014 w/Trenton military w/wx for RAF Kinloss and RAF Leuchars. Canforce 203 (not heard) at 1626 w/Trenton military w/wx for London, Ontario. All in USB. (RP-MD)
11235: UN 065 and RAAF Darwin, NT Australia at 0530 w/ETA Darwin. QANTAS 15 and RAAF Perth, WA Australia at 0843 w/change to 15085 for pp. RAAF Sydney, NSW Australia at 0810 clg KIWI 337. AXF, RAAF Sydney NSW, Australia at 0810 clg KIWI 337, w/no contact. (IJ-NZ) ASCOT 2050 clg Air Force Darwin requesting TAF wx for Darwin at 2050. (SD-AU) All in USB.
11387: Sydney (automated voice) at 0456 in USB w/VOLMET. (RP-MD)
11396: New York (MWARA CAR-A) at 1422 in USB w/United 870 in posn report and selcal (ES-BD) check and w/aircraft N23ET. (RP-MD)
11460: Andrews VIP clg NAVY 496 and NAVY 676 at 0323. SAM 403 on the ground at Pago Pago w/ETA to Kaneohe of 1020. 403 wkg Andrews VIP, re: taxing at this time and two tires may need to be replaced when we land at Kaneohe, later decided to divert to Hickam. (JJ-CA) Andrews VIP wkg TROUT 99. All in USB. (MF-OH)
11494: U.S. Customs monitored at 1740 w/COTHEN Network in Parkhill enciphered speech. (RP-MD)
11498: MANSANNO 02 wkg CHARLIE-8-NOVEMBER w/periodic ops reports at 0522. (JJ-CA)
11192: Short comms, weak here. I copied one callsign DARK 82 and reference to "backup frequency" and apparent QSY to UHF (JK-NY)
12242: *USCGC Metomkin* (WPB-1325) clg CAMSLANT in USB at 0144, nothing heard. F6XR clg NMN at 0155, again nothing heard. (MF-OH)
12290: VKA, South Australian Police at 0330 in USV clg VIX, Australian Maritime Safety Authority, Canberra w/radio check advising QSY 16420. (SD-AU)
12443.5: UVPD, TKH Slavutich 3 at 0745 in CW w/msg in EE via UWS3. (HOOD-UK)
12459: UCQW, Chavanga (MI-1619) at 1753 in CW w/msg to UDK2. (HOOD-UK)
12470.5: UFFE, TKH Seatamar at 0720 in CW w/msg in EE to Brussels via UCW4. (HOOD-UK)
12478: UCNJ, TKH Igor Grabar at 0634 w/admin to UCE. UHCK: TKH Kapitan Glazachev at 0628 w/admin to UCE log-in 66103 UHCK. All in ARQ. (HOOD-UK)
12484.5: 9HTC4, M/V Sakar at 1139 in ARQ asking QRU to LZW (21591dwt bulker) (HOOD-UK)
12488: UHQY, TK Volgoneft 143 at 0619 in ARQ w/msg to UJE. (HOOD-UK)
12488.5: P3VG5, TK Volgograd City at 0755 in ARQ w/crew TGs to UJE. (HOOD-UK)
12495: UFJR, TKH Leonid Sobolyev at 0936 in ARQ w/msg in EE to Germany via UFN (23940 dwt bulker). (HOOD-UK)
12499: 4XFN, *M/V Zim Europa* at 0806 in ARQ w/Amver rpt (44.24N/0631W) to OXZ

(45850dwt cont carrier). (HOOD-UK)
12537: UCUF: Boris Syromyatnikvo (MA-1832) at 0900 in RTTY 50/170 w/msg to UDK2. (HOOD-UK)
12538.5: ENUL, TKH Yuriy Krymov at 0737 w/crew TG to USO5. UROS: TKH Dnepr at 0722 w/crew Tgs to USO5. All in RTTY 50/170. (HOOD-UK)
12555: 4JHC, TKH Natavan at 0633 w/msg in EE via UON (3134 dwt sea-river cargo vsl bound for Kerch). 4JEB: TKH Tovuz at 0640 w/admin to UON. All in CW. (HOOD-UK)
12561.5: UAUA, BATM Valerij Dzhaparidze w/crew TGs to UIW. UDAF: Almaz (STR-8257) at 0625 w/admin from *Km Loginov* to Murmansk via UIW. All in RTTY 50/170. (HOOD-UK)
12563.5: 3FNK5, M/V Frio Atlantic 1at 0631 in ARQ w/msg to Laskaridis Shipping via SAB (6685 dwt reefer). (HOOD-UK)
12564: UIMQ, BATM Armenak Babayev at 0802 in RTTY 50/170 w/crew Tg to UIW. (HOOD-UK)
12567: UALV, RTMS Kulikovo Polye at 1249 in RTTY 50/170 w/crew TGs to UIW. (HOOD-UK).
12568: UFXV, BMRT Navigator at 0728 in RTTY 50/170 w/admin from *Km Gabalov* to UDK2. (HOOD-UK)
12574: UDYN, Maksim Starostin (MA-1814) at 0726 w/admin to Murmansk Tralflot via UDK2. UAYX: BMRT Pavel Panin (MB-0013) at 0725 w/admin from *Km Bezdolnyy* to UDK2. UAZC: Nikolay Zakorkin (MB-0007) at 1137 w/OBS msg to UDK2. All in RTTY 50/170. (HOOD-UK)
12584: VIP, Perth Radio, Aus at 2355 in CW w/stn marker. (EW-AU)
12590.5: UJE, Nizhny Novgorod Radio at 0710 in ARQ w/crew TG to P3UK7: TK Inzhener Lupichev (ex UEIL). (HOOD-UK)
12591.5: UFL, Vladivostok Radio at 2015 in ARQ w/ID marker. (HOOD-UK)
12597.5: UFN, Novorossiysk Radio at 1446 in ARQ w/msg to UGUR: TKH Torik. (HOOD-UK)
12599.5: UAT, Moscow Radio at 0639 in ARQ w/msg from Vladivostok to UHBT: TKH Kooperatsiya (52580dwt bulker). (HOOD-UK)
12662: 7TF, Boufarik, Algeria in CW w/tfc marker from 0130-0135. (RMC-CA)
12663: CBV, Valparaiso Playa Ancha, Chile in CW w/tfc marker from 0100-0115. CBV. Valparaiso Playa Ancha, Chile in CW w/tfc marker from 0235-0245. (RMC-CA)
12676.5: A4M, Muscat Radio, Oma at 1248 in CW w/stn marker. (EW-AU)
12689.5: Possible ABC News feed at 0022 in USB. (SW-IN)
12711: PWZ33, Rio de Janeiro Naval, Brazil in RTTY 75/850 w/idling much of the time on continuous downshifts. Has also been heard with a VFT signal (spaced 120 Hz) idling on steady tones. At 2130 sends Navarea V warnings preceded by a call-up tape with Quick Brown Foxes for 5 or 10 minutes. (JD-UK)
12831.5: XFM, Manzanillo, Mexico, in CW w/tfc marker from 0130-0135. (RMC-CA)
12788.3: Unid, HFFAX of Gulf of Mexico at 0032 in USB. (SW-IN)
12808.5: VTG, Bombay Radio, Ind at 1152 in CW w/stn marker. (EW-AU)
12939: SPE61, Szczecin, Poland in CW w/tfc marker from 1710-1720. (RMC-CA)
13088: Unid WX station broadcasting wind reports w/computerized voice at 0433 in USB. (CB-GA) (*Probably USCG Communications Area Master Station Pacific at Point Reyes which broadcast on 13089 at 0430 – Ed*)
13089: CAMSLANT Chesapeake at 1406 in USB w/Cutter Metompkin (WPB-1325, Charleston SC) passing freqs 11434 and 4602. (RP-MD)
13200: TOTEM 61 (C-130, Elmendorf) at 2058 in USB w/McClellan in pp w/Elmendorf Metro for wx at Cold Lake, Canada at 2230. (RP-MD)
13257: CANFORCE 15 (probable CC-150, 8 Wing Trenton) at 1649 w/Trenton Military w/request for wx at Gander, Trenton and Ottawa. (RP-MD)
13270: New York Radio at 1438 in USB w/Volmets for Midwestern airports. (SW-IN)
13366: M42, FAPSI, RUS at 1730 in RTTY 100bd w/msgs to XQW on link 00110. Many mistakes in msgs (AB-NL)
13665.2: 6VU73: Dakar Met at 0339 in RTTY 50/790 w/wx tfc. Weak sig, but readable (MADX-MD)
13922: MKK, RAF Bampton UK w/2-chan Piccolo wkg MKD at 1345. (JD-UK)
13960: PACOM 01 inbound Kuala Lumpur, ETA of 0820, wkg Andrews VIP for pps at 0715. (JJ-CA)
14411.7: Dept. of Sea Transport stn, Indonesia at 0912 in ARQ w/msgs. OK SBA KATANYA 3 TAPI HANYA 2 AJA ?3LB SBA KALAU BEGITU TG WANGI 09 UTK KKW ALAMATNYA KKW DEPHUS PROP NTT/"?37. (IJ-NZ)
14567.2: HMF32, Pyongyang Radio, Kor at 1005 in BAUDOT 50/360 w/EE tfc. (EW-AU)
14817.5: JPA, INTERPOL Tokyo Japan at 0745 in ARQ relaying msgs in the clear, about a UN conference being held in Mexico on Nov. 20. (IJ-NZ)
16023: Russian FAPSI: unid loc at 1554 in RTTY 72/490 w/5LGs. Definite 72bd signal. Msg headers consisted of 5x5FGs, each starting with link id: 11177. Then into 5LGs in text. QRT at 1602 w/short opchat (MADX-MD)
16209.9: OZU25, Copenhagen Radio, Dnk at 1152 in TWINPLEX 100/425 w/diplo messages in unid lang. (EW-AU)
16255: "U3H" French Emb. Moscow in FEC-A 192bd at 1345 w/5L groups. These stns pop up anywhere between 16245 and 16255, sometimes two or three at once. (JD-UK)
16357.51: GYU, Gibraltar Radio, Gib at 1217 in PICOLLO 6 w/idling only no tfc. (EW-AU)
16386.7: PAK, Islamabad Radio, Pak at 1221 in TWINPLEX 200/400/200 w/diplo msgs. (EW-AU)
16691.5: J8RF5, *M/V Transoceanic* at 0757 in ARQ w/msg via 9VG (is ex Izvestiya, still using log-in as 67933 USMB). (HOOD-UK)
16697: LJ4I, Norwegian Partners Marine

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(GMDSS Training Center) at 0855 in ARQ registering as GMDSS number 002578450 with IAR. IBGL, *M/V Luciana Della Gata* at 0658 w/DIFMAR (AMVER) msg to IAR. (HOOD-UK)

16784.8: YLMX, *M/V Victor* at 0736 in RTTY 50/170 w/msgs to Riga and Italy using this c/s — may be dual-flagged as V3TQ7. (HOOD-UK)

16800.5: UAQU, *TKH Sasha Borodulin* at 0909 in RTTY 50/170 w/msg to AIF Shipping, Company, Murmansk and to Caen, France from Km Tonkovskiy via UIW. (HOOD-UK)

16898.5: UAT, Moscow Radio at 1736 in ARQ acknowledging tfc from *UCJU: Rossiya* (nuclear icebreaker). (HOOD-UK)

16904: UDK2, Murmansk Radio at 1501 in ARQ w/ID marker. (HOOD-UK)

17077: UAI3, Tallin (?) in CW (40 wpm) w/tfc marker from 0505–0515. (RMC-CA) (*UAI3 is Nakhodka Radio, located in the Russian Far East — Ed)*

17096: VRX80, (British Call Block) in CW w/tfc marker from 1700–1710. (RMC-CA) (*VRX80 is Hong Kong Radio. Yes, a British call, but it was retained when Hong Kong reverted back to Chinese control — Ed)*

17102.4: XSG29, Shanghai, China w/tfc marker from 0540–0550. XSG29, Shanghai, China w/tfc marker from 1535–1550. All in CW. (RMC-CA)

17132: XSV, Tianjing (Tientsin), China in CW w/tfc marker heard from 0550–0600. (RMC-CA)

17172.4: 9MG, Pinang, Peninsular Malaysia monitored in CW w/tfc marker from 1700–1710. (RMC-CA)

17441.4: 5YE, Nairobi Radio, Ken at 1016 in BAUDOT 100/850 w/wx. (EW-AU)

17445.5: 5YE, 554 Nairobi Radio, Ken at 0554 in FAX 120/576 w/wx map. (EW-AU)

17502.5: MFA, Bonn, Ger at 0613 in RS-ARW 228.5/170 w/encr msgs. (EW-AU)

18182: Unid, MFA Algiers COQ-8 "CQ d'Alg . . . reste 3eme partie pour demain . . . Inchalla [sic]" followed by requests for QSL from individual African embassies (not heard) at 1415. (JD-UK)

18269: HBD20: MFA Berne at 1656 in ARQ w/5LGs. 2 msgs to Swiss Embassy, Ottawa. QRT at 1743 w/"HBD 20/2." (MADX-MD)

18286: MFA, Bonn, Ger at 0630 in RS-ARQ 228.5/170 w/encr msgs. (EW-AU)

18290: SAM 050, inbound Pago Pago, wkg Andrews VIP for Pago Pago wx at 0041. Departed Pago Pago 0320z for Hickam, ETA of 0845. Andrews mentioned using the site out of Azores (Lajes) for this freq. (JJ-CA)

8296.7: RFQP, Djibouti Radio, Dji at 1118 in ARQ-E3 100/425 w/idling only. (EW-AU)

18940: Unid, Russian Man at 1225 in USB, reading 5L grps, ends w/zero repeated five times at 1230. (EW-AU)

19031.7: Islamabad Radio, Pak at 1225 in TWINPLEX 100/170 w/msgs in Arabic and encr. (EW-AU)

19131: FLINT 914 (DEA a/c) at 1906 in USB w/ATLAS, (DEA/Customs contract facility) reporting that he and FLINT 912 just departed SUNDANCE 100 (Bogota Colombia) enrt to SUNDANCE 300 (Cali, Colombia) w/flight time of 40 minutes. (RP-MD) FLINT 418 on SJ clg ATLAS, enroute BLUEGILL 200 at 2345.418 req pp at 2347. FLINT 931 leaving SUNDANCE 200, req pp at 2115. All in USB. (MF-OH)

19699: UFN, Novorossiysk Radio at 1526 in ARQ w/status rpt to UBLY: TK KAPITAN E EGOROV. (HOOD-UK)

19830: P6Z, MFA Paris, France at 0855 in FEC-A 192 Bd/425 w/SRZ DE P6Z BJR VX QAP LA 1 DIM DE 10 QTC 2 POCHES PLIENES INT ZBZ/QTC NNN. (IJ-NZ)

20184: ZLO, RNZN Irirangi, New Zealand at 0315 w/VFT 6028 (BARRIE) 75 bd all channels w/THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG, 1234567890, and RYRY. (IJ-NZ)

20407: REPLENISH (strong level) clg VAGABOND w/no response. Confirms this freq as Z305 at 2151 in USB. (RP-MD)

20556.5: RFGW, MFA Paris France at 0710 in FEC-A 192 Bd/425 w/5LGs. (IJ-NZ)

21875.5: ZLO? RNZN Irirangi New Zealand at 0340 w/VFT 6028 (BARRIE) 75 bd all channels w/THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG, 1234567890, and RYRY. (IJ-NZ)

22238: GYA, RN Whitehall, London in RTTY 850/75 CARB w/"14 22 GYA" at 1630. GYA, RN London CARB "14 22 GYA" in 7-bit BAUDOT 850/75. GYA, Whitehall Naval, UK in RTTY 850/75 CARB w/"14 22 GYA." (JD-UK)

22377: GKE7, Portishead Radio, UK in ARQ w/marker. (JD-UK)

22382: NRV, COMSTA Apra Harbor, Guam in ARQ w/marker. (JD-UK)

22682: HLF, Seoul, Korea, in CW w/tfc marker from 0035-0050. (RMC-CA)

23214: U.S. Customs at 1708 in USB w/PARKHILL voice encryption system. (MADX-MD)

23675: UNID: U.S. DEA? at 1722 in USB w/Ionosonde pulse. (MADX-MD)

25523.5: ZLO? Presumed RNZN Irirangi New Zealand at 0350 in VFT 6028 (BARRIE) 75 bd all channels w/THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG, 1234567890, and RYRY. (IJ-NZ)

25678.5: VHL, RAN Darwin, NT Australia at 0148 w/VFT 16 Channel Xmission. (IJ-NZ)

27960: UNID: prob U.S. military at 1502 in USB w/Ionosonde buzzer. (MADX-MD)

Contributors:

(AB) Ary Boender, NL; (AB2) Al Bauerschmidt, USA; (AG) Alan Gale, UK; (ALS) Al Stern, Florida; (AWH) Al Hussein, Florida; (BF) Bill Farley, New Mexico; (CB) Christian Bryant, Georgia; (EW) Eddy Waters, Aus; (HOOD) Robin Hood, UK; (IJ) Ian Julian, NZ; (JD) John Doe, UK; (JJ) Jeff Jones, California; (JK) John Kasupski, New York; (MADX) MidAtlanticDXer, Maryland; (JLM) Jack Metcalf, Kentucky; (MR) Mike Rasmussen, Minnesota; (RMC) Richard McClung, California; (RP) Ron Perron, Maryland; (RP1) Roland Mac McCormick, Georgia; (SD) Simon Denneen, Aus; (SI) Sean Ingram, Virginia; (SW) Sue Wilden, Indiana, and (MF) Logs Editor, Ohio. ■

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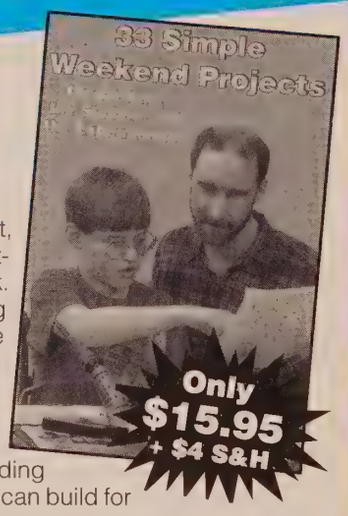

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FCC Actions Affecting Communications

Uncle Charlie Is Back In Business, And Petition To Eliminate CB's 150-Mile Rule Formally Accepted For Filing

The FCC has had its hands full in recent months! Late in October, Commission chairman William Kennard announced the formation of two new bureaus at the FCC. Coming now are a new **Enforcement Bureau** and a new **Consumer Information Bureau**. These were due to be established in the head-spinning timeframe between October 26, the date of the announcement, and November 8, the effective date. Adding or consolidating a full bureau at the Commission is a major undertaking, usually requiring Congressional budgeting. Kennard initially outlined his plans for the new bureaus and other major changes for a new FCC in the 21st century, at Congressman Billy Tauzin's House Telecommunications Subcommittee hearings on "reauthorization" of the FCC, on March 17, 1999. Again in October, Kennard repeated his intentions before the same Congressional committee. Tauzin and his committee agreed.

The FCC is not usually known for its lightning speed, so to undergo a major reorganization such as this in only about two week's time ought to be a piece of work to behold. Here is how the new bureaus break out: FCC Deputy General Counsel David H. Solomon has been named head of the new Enforcement Bureau. The new bureau will consolidate enforcement functions formerly handled (or *not* handled) by the Common Carrier, Mass Media, Wireless Telecommunications, and Compliance and Information Bureaus. The new Enforcement Bureau will have four divisions: the Telecommunications Consumers Division, for consumer-related matters with common carriers, such as slamming; the Market Disputes Resolution Division, for complaints among common carriers regarding business competition and market issues; the Technical and Public Safety Division, for complaints about such matters as tower marking and lighting, unauthorized construction, and Emergency Alert System rules, etc.; and finally, the Investigations and Hearings division, to handle non-technical complaints against wireless licensees, broadcast stations, and most notably "various other investigations being conducted by the Bureau." The Enforcement Bureau includes the FCC existing Regional and Field Offices, and will be responsible for handling on-scene investigations, inspections, and audits.

Land Mobile Service enforcement maven Riley Hollingsworth, K4ZDH, who has been leading enforcement by example, has his own niche in the new Enforcement Bureau. Attorney and ham Hollingsworth wears a variety of hats. While best known for his very effective amateur radio enforcement activities at the FCC, he is charged with a broad scope of Land Mobile enforcement. According to a statement by Mr. Hollingsworth, cleaning up CB radio is a corollary goal of the same need and potential as amateur radio. CB enforcement could be next.

The new Consumer Information Bureau is to be headed up by Lorraine C. Miller, recently Director, Office of Congressional Relations, Federal Trade Commission. The Bureau will consist of a single division, and will resolve complaints that are more informal and consumer inquiries at the Consumer Center in Gettysburg, Pennsylvania, as well as a new Consumer Center to be established in Washington, DC. The telephone number remains 1-888-CALL-FCC.

Challenging The 150-Mile CB Rule

A formal petition for rulemaking was filed just prior to press time, urging the FCC to eliminate the CB radio 155.3 mile distance of communications limitation. Section 95.413(a)(9) of the FCC's Part 95 Rules (found within CB Rule 13) is the single most annoying and ineffective restriction to utilizing the 40 legal CB channels. Although CB was established for, and continues to function as, primarily a short-distance communications service, DX contacts do happen. They occur often enough to keep CB interesting, and sporadically enough *not* to substantially stifle local comms. Removal of this restriction should serve to protect the innocent from inadvertently running afoul of the law (it happens regularly) by not knowing the whereabouts of a contacted station. The petition, as written, recommends other related changes under Part 95, as well.

"Perhaps it is better to be redundant than to miss a photo opportunity."

Regarding emergency communications, a separate provision is requested to give that in *no event* would such life-safety comms be restricted to communication with *any* other station, under the circumstances. A similar provision has been proposed for disaster, as well as traveler and motorist assistance communications. The Commission has only so much authority, so if passed, CB communications to foreign countries would be subject to any remaining restrictions in the International Radio Regulations, handled by the International Telecommunications Union, Geneva. Also, such comms would be subject to rules in effect in the country contacted.

The petition has been formally accepted for filing at the FCC. The very next step is for the FCC to assign a Rule Making (RM) number, thus establishing a sort of preliminary docket. The Wireless Telecommunications Bureau, Private Wireless Division, is at liberty to dismiss any petition without any action, with or without apparent cause. It appears unlikely that this petition would be dismissed because, (1) this issue has not been visited in recent years, (2) this petition seeks a measure of "deregulation" which is extremely politically correct at the FCC

BY ALAN DIXON, N3HOE <n3hoe@juno.com>

today, (3) it is a formal filing. Once a RM number is assigned, such action will be published in the Federal Register and at the FCC Website. Comment and reply comment periods will open briefly, typically consecutive periods of thirty and fifteen days, respectively.

If comments are favorable, the measure goes to the five Commissioners for a majority vote. This is not the end of the process. That vote is only to establish a Notice of Proposed Rulemaking (NPRM) docket. At this point, the actual proposed new rules appear, verbatim. Again, it is put out to the public for comment and reply comment. Then, comments and possible further changes are considered. The bureau staff will issue a Report and Order (R&O) to the bureau chief for his review. The R&O may be tweaked, and must be "rubber-stamped" up the bureaucratic ladder. Ultimately, the docket goes to the five commissioners for a final collegial vote. They may vote by circulating and signing the docket, or vote aloud during an open meeting, as a regular agenda item. This really makes the Commissioners look like a bunch of good guys before the press cameras!

Hopefully, by the time you are reading this, a docket number will have been assigned, and the matter opened up for public comment. Keep checking the FCC Website at <www.fcc.gov> for official action. The Commission now allows for on-line filing of comments at the site, a great way for your voice to be heard on any number of pending matters. We at *Pop'Comm* will be keeping a very close eye on this one. Remember, you read it here first! For more information on the above CB petition, contact the *Pop' Comm* legislative affairs desk at <n3hoe@juno.com>.

A New Spectrum Allocation For Intelligent Transportation Systems (ITS)

The Commission has dedicated the 5.850–5.925 GHz microwave band for newly developing traffic safety and control uses, in Report and Order FCC 99-305; ET Docket 98-95. These may include traffic monitoring, travelers' alerts, automatic toll collection, emergency vehicle preemption of traffic signals, and possibly collision avoidance radar. The U.S. Department of Transportation has been a major proponent of ITS since the concept evolved several years ago, and the original petition had been filed by the Intelligent Transportation Society of America. These RF systems are intended to be relatively low power operations in the milliwatt range, and under 30 watts EIRP maximum, for short-range data between passing vehicles and roadside systems.

The new rules have been codified under FCC Part 90, under the description "Dedicated Short Range Communications Services" (DSRC). Government Radiolocation (radar) retains its existing primary status in the band, and ITS/ DSRC users must tolerate any interference from government radar. **Part 97 Amateur Radio** retains its existing secondary status in the band, even though hams are authorized much higher power levels than DSRC. The Commission "suggests informal" frequency coordination among amateurs and DSRC operators. Part 18 Industrial, Scientific, and Medical users remain in the band, but since they generate RF energy, and are not used for communications users, need no interference protection. Part 15 unlicensed devices also continue to be used in the band, without any interference protection, as always. The ITS DSRC is a non-voice system, with applications still under development.

Wireless Phones And Brain Cancer

Tired of the latest volley of misinformation over fears that wireless telephones cause brain cancer? Is the government investigating this? Should they? Is any other party going to conduct testing? Last October, the Food and Drug Administration's Center for Devices and Radiological Health signed a "Letter of Intent" for a proposed collaboration on mobile phone health effects, between the FDA and the CTIA. According to the FDA, the letter is not a commitment. It is a means to discussion and negotiation on the possibility of establishing a formal Cooperative Research and Development Agreement (CRADA) to investigate possible health effects of RF energy emissions produced by mobile phones.

Here we go again. Any such research, to be conducted by organizations other than the CTIA, would address the unpublished results of "studies previously conducted by the Wireless Technology Research, L.L.C., (WTR) with funding provided by CTIA," states the FDA. One study would follow up on a previous WTR test on possible structural defects on genetic material. A second study would follow up on some WTR epidemiology (disease control) studies. The CTIA had originally committed $25 million to wireless phone health safety research in 1993, for what was to have been a five-year "independent" research program. Perhaps this time, a full and complete round of testing will be completed, producing some meaningful outcome. Whatever results, this will be a slow, and likely, agonizing process, especially given the major parties involved: government and industry. Stay tuned.

Tying The National Weather Service's Hands

Such would be the result of **H.R. 1553**. Language in Section 3(c)(2) of the National Weather Service and Related Agencies Authorization Act of 1999, would bar the NWS from providing services that are or can be provided by "commercial enterprise," with the exception of "vital weather warnings and forecasts for the protection of life and property." Another exception allows for aeronautical-related NWS services required by international agreements. You may have first read about this bill at the CQ Website. Many radio communications operators are Skywarn spotters or otherwise involved in passing weather or navigational information. The availability of weather information, or lack of it, on NOAA Weather Radio is therefore of prime concern. This bill has already slipped quietly through the House of Representatives, and is in the hands of the Senate Commerce Committee as of this writing. It is interesting to note that this is the same Senate committee that handles all telecommunications matters introduced in the Senate. As yet, it is unclear just how radically the bill would affect services of NOAA Weather Radio, or the Skywarn program. We will bring you future developments of H.R. 1553, when they occur.

Feel Good Legislation

Sometime before Congress adjourned last fall, the House passed S. 800, the **Wireless Communications and Public Safety Act of 1999**, subsequently signed

into law by President Clinton. This "feel good" piece of legislation promotes the concept of 911 as the single nationwide emergency telephone number. Cellular Telecommunications Industry Association President Tom Wheeler said in a CTIA press release, "This new law will save lives. By promoting the universal use of 9-1-1 as the emergency number to call . . ." Did he say "new?" Has Tom forgotten that in August 1996, the FCC issued a Final Rule (CC Docket 94-102; FCC 96-264) mandating that wireless telephone carriers process all 911 calls to the appropriate Public Safety Answering Point, effective October 1, 1997? As far as 911 being the official wireless phone emergency number, the fact is already ancient history. Perhaps it is better to be redundant than to miss a photo opportunity. This is about politics, after all.

FCC Reconsiders Standards For HDTV

The Commission's Office of Engineering and Technology (OET) has released a report upholding the existing 8-Level Vestigial Sideband (8-VSB) standard for the coming new High Definition Television (HDTV). Although the new digital television standard has hardly made an appearance on the market, some in the industry were questioning its robustness for reception with indoor antennas. Others have had doubts about 8-VSB's viability for mobile use.

According to a FCC press release of October 1, 1999, issues were raised by Sinclair Broadcasting Group, who had demonstrated indoor reception with an alternative digital TV standard, Coded Orthogonal Frequency Division Multiplex (COFDM). The OET had then undertaken an independent study of these two standards. The FCC study, **FCC/OET Report 99-2**, noted that 8-VSB exhibited ghosting problems with multipath in dense urban environments with strong signals. 8-VSB multipath problems were noted to be worse, when compared to COFDM, in mobile operations. Nonetheless, the OET found that 8-VSB had advantages in an approximately five percent higher data rate. Other advantages include spectrum efficiency, carrier-to-noise performance, transmitter power requirements, and being less affected by impulse and phase noise than the alternative technology. COFDM on the other hand, was found to have advantages in single frequency network operation and in mobile service. The report concluded that the 8-VSB multipath problem might be corrected by a minimum adaptive equalizer value of 22 microseconds, rather than the 10 microseconds maximum used in the demonstration test receivers. Most of the various consumer equipment manufacturers in discussion with the OET in this matter concurred with OET to retain the 8-VSB HDTV standard.

The possibility of multipath problems with HDTV may come as a surprise to many. Given digital technology, we expect perfect results or nothing at all. On digital mobile phones, we get no static. In digitally-transmitted text, we have no errors introduced. We may have reasonably expected to leave ghosts behind in our old standard NTSC (often incorrectly referred to as "analog") TV sets. Unfortunately, not so!

Keep warm, and let me know what's on your mind regarding legal issues surrounding communications. ■

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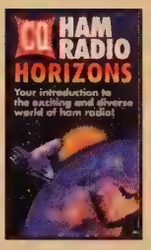

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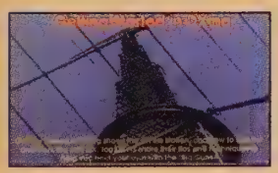

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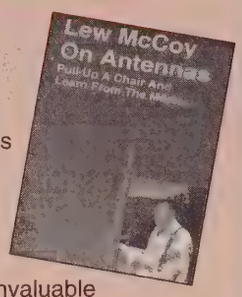

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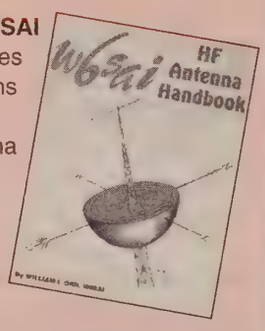

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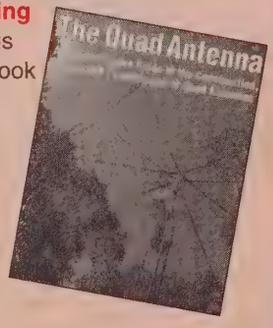

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Tuning In *(from page 4)*

viable citizen's radio service, created with one thing in mind: inexpensive, *local* communications for you and me. The years of on-again, off-again licensing and outrageous fee structures on CB finally gave way for a license-free service that continues to thrive. Just ask the folks at Cobra, Maxon, Midland, Uniden, Cherokee, and RadioShack. I don't know if anyone's keeping count, but there are certainly many thousands of CB transceivers out there and more are being manufactured and marketed as fast as you can say 10-4.

But from day one, the CB service that Uncle had in mind more than 40 years ago didn't wash with the public. Why? Because the Commission had its head in a pile of old RG-58 coax and its headphones on too tight. What better timing! Created on 27 MHz, frequencies ideal for long-distance, hobby-like communications, and ironically, at the height of an 11-year sunspot cycle (late '50s and early '60s), the CB service was destined to run head-on with the Commission, which didn't consider rule violations a laughing matter. Why half-baked rules requiring, among other things, that transmissions be of a certain duration and "substantive," specific antenna height, and prohibiting talking long-distances were ever approved in the first place is beyond comprehension.

During the CB enforcement crackdowns in the '60s and CBs hottest years in the '70s, the Commission seized equipment and levied hefty fines to otherwise law-abiding citizens for using their radios. Trouble is, in many cases they were using their CB for talking "skip" — more than 155 miles — often *unintentionally*. But soon, people being the curious, fun-loving creatures they are, discovered that it was a quite a kick to shoot skip — legal or not — talking hundreds or thousands of miles to distant stations without lots of expensive ham equipment or huge antennas — or taking an exam. Many even rubbed it in Uncles' face, collecting QSL cards, and going for broke — literally — with "footwarmers" and super antenna farms. But whatever CB had become, you couldn't entirely fault the operators. After all, here was Ordinary Non-Technical Joe and Sue firing up the radio, in most cases with a simple ground plane antenna clamped to the chimney and without any effort or extra power, routinely talking to other radio operators in Sweden and Puerto Rico. There are even documented cases of Channel 9 operators "responding" to calls for help from hundreds of miles away that "sure sounded like a local." Oops. Another rule violation!

Of course, this didn't please the boys in Washington. Crys of "it's not what we intended for CB" were heard as the FCC sent thousands of letters to the operators. But, like they used to say in the old TV commercials, "Lock your car, take your keys — don't help a good boy go bad," the bungling bureaucrats had created a monster and there was no back-peddling, as Uncle tried desperately to lock the barn door, albeit a few years too late.

Anyone who knows anything about radio knows that CB frequencies are subject to the daily changes in the ionosphere, and 11-year Solar Cycle. In short, they're unpredictable. As Dixon says in his Petition, "A user should need only to exercise common sense and courtesy, not possess a technical understanding of High Frequency (HF) radio wave propagation, nor a regional geographic frame of reference limited to an arbitrary radius." But why then, did the Commission, knowing how radio waves propagate at 27 MHz, give Americans the right to the microphone, then later pull back on the cord? Bureaucrats. You've got to love 'em. You don't have to be the brightest light in the room to realize they did a dumb thing. They know it, and CBers know it.

And as Dixon points out in his Petition, when the skip rolls in, you can *still* communicate a reasonable *short-range* distance; what the service was designed for in the first place. So, it seems abundantly clear that the time has indeed come for lifting the 150-mile rule, even to allow DX calling and long-distance talking (the use of linears not included). Professional drivers, vacationing families, and Channel 9 neighborhood watch groups would *still* be able to communicate locally — as they have for 40 years — but gone would be another paper tiger rule that's best left to the history books.

The operators that behave as if they've just climbed out of the trees at the edge of the savannah will continue their antics — the profanity and music-playing — as they have for dozens of years, but if Dixon's Petition goes the mile, the Commission will finally be able to sink its teeth into the real rule breakers, making a better CB service for us all. ■

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advertisers index

AOR USA, Inc. 15
Am-Com 57
Antique Electronic Supply 23
Antique Radio Classified 22
Atomic Time, Inc. 27
Bill's CB & 2-Way Radio Ser 35
C. Crane Company ....Cov III
C & S Sales, Inc. 31
CQ Amateur Radio Buyer's Guide..67
CQ Amateur Radio Calendars....14
CQ Merchandise 25
CRB Research 22,34,61
Computer Aided Technologies 43
DWM Communications 73
Drake, R.L. Company 11
Durham Radio Sales & Ser., Inc. 73
Everhardt Antennas 35
Firestik Antenna Company....19
Flightline Engineering, Inc. 23
ICOM America, Inc....7
Jo Gunn Enterprises 34
Lee Electronics Company 61
Lentini Communications, Inc....1
LockTronics....73
MACO Mfg. /Majestic Comm. 33
MFJ Enterprises, Inc. 39
MetroWest, Inc. 30
Monitoring Times....47
Optoelectronics, Inc. ....5,Cov IV
Phillips-Tech Electronics 30
REACT International, Inc. 37
RadioWorld, Inc. 61
Scanning USA....73
shoc 29
Universal Radio, Inc. 3
Viking Systems International 67
Wilson Antenna, Inc. 23
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the loose connection

Radio Communications Humor

Barking For Help

My friend Norm had a special talent for getting in trouble, and such is how it was when Norm came home Tuesday night and remembered to check his oil before walking the dog and retiring for the evening.

Champ was inside doing the ritual Cocker Spaniel wee-wee dance while Norm fumbled with the key. Norm had found it easier to leave the dog's leash attached than to find it four times a day and chase a dog whose aunt and uncle were also its mother and father; Champ had learned to treat the leash like a second tail.

As Norm stepped on the leash and bent to grab the end, he felt a cool breeze as his pants split from zipper to beltloop. No matter, he thought — it was dark out and he still wore his sport coat. As Champ took off, Norm grabbed his flashlight and they set out to walk the perimeter of the apartment complex, then head to Norm's '78 station wagon.

When Norm opened the driver's door, Champ climbed into the passenger seat and Norm pulled his leash under the steering column, then up and over the top to slip the loop over the gearshift lever. Norm knew if Champ pulled on the leash, it would only pull the lever up and more firmly into "park."

Norm released the hood latch, then propped up the wagon's massive hood with a red broomstick he's carried ever since the hood spring broke. A black drop on the bottom of the dipstick told Norm to add two quarts. A case of cheap oil every month beat a big car payment, Norm thought, so he didn't mind the inconvenience. He thought he'd check the transmission fluid as well, but he had to get the owner's manual because the process involved several steps which he could never remember.

Norm started the car, and with his foot on the brake, moved the shift lever, stopping for a moment in each position before returning the lever to the neutral position. He then went to the front of the car and leaned under the hood to find the transmission dipstick.

He never noticed the black Labrador Retriever wandering around the lot until the dog decided Norm needed a good sniffing, which he gave him, greeting him in a manner usually reserved for other dogs. The next few seconds are still a bit hazy, but the key points involve Norm standing up very quickly, the hood falling, and Champ's leash pulling the lever into reverse while trying to leap through the windshield to get at the Lab. The incident could have ended right there if the hood latch hadn't punctured Norm's tie as it slammed shut, or if Norm had set the parking brake, which is probably moot since it had never worked anyway, though he sincerely intended to have it fixed.

Norm cursed himself for not wearing a clip-on tie that day, but he was relieved that he had just that morning slowed the car's idle speed from a dangerously high race. As Norm tried to figure out how Champ had pulled the car into gear, he obediently followed it across the lawn between the parking lot and the road in front of his apartment, wishing that instead of stopping to fill the tank on the way home, he would have tried to make it home on fumes. Champ stood with his front paws on the steering wheel as if he was driving; Norm walked along, bent like Groucho Marx over the car's hood. He tried to remove his tie, but found that the hood had caught both ends, and it was then that Norm began to wonder who would get all his radios when he was gone.

Norm became increasingly aware of the lake across the road from his apartment, and increasingly hopeful that it would be shallow — particularly in the area where Champ was heading. With his limited range of motion, Norm tried to influence Champ to move to one side or another so that he would pull the car's shift lever into park, or at least "steer" the car into a tree or a rock, but Champ appeared to maneuver deftly between every hazard, past the only witness to the whole episode — a four-year-old boy who had been looking out his window as Norm and Champ passed through their yard on the way to the lake. Norm yelled and waved frantically at the boy; the boy waved back with equal fervor.

Sunrise found the car waist-deep in the lake with Norm and Champ shivering — Norm laying across the hood like a deer and Champ squeezed onto the dashboard against Norm's radio, which ran all night despite the car's electrical system being submerged. Some fishermen had guided their boat within 30 feet of them just before dawn, their outboard masking feeble cries and barks for help. Champ had gone hoarse barking at some nearby ducks, and Norm wore out his voice begging Champ to "key the mike, dammitt!" As the sun rose, the ducks came in for a closer look, followed by the fishermen, who cut Norm's tie and Champ's leash so they could both splash to shore.

Norm now pays a slightly higher insurance rate, and Champ isn't quite so anxious to ride in the car, but they are otherwise none the worse for wear. Norm says at least now his neighbors know his name, though everyone's taken to calling him "Captain Titanic," and Champ wears a special ski-mask with ear-holes when they go out for a walk. ■

Editor's note: Bill is on the road this month taking a well-deserved week off. But, Bill being the good-hearted soul he is, is helping his family on a cross-country trek. He assures us, though, he's taking his CB along, and promises to be back next month. He recommended we use this column he wrote for our old CB Radio magazine back in 1996.

BY BILL PRICE, N3AVY

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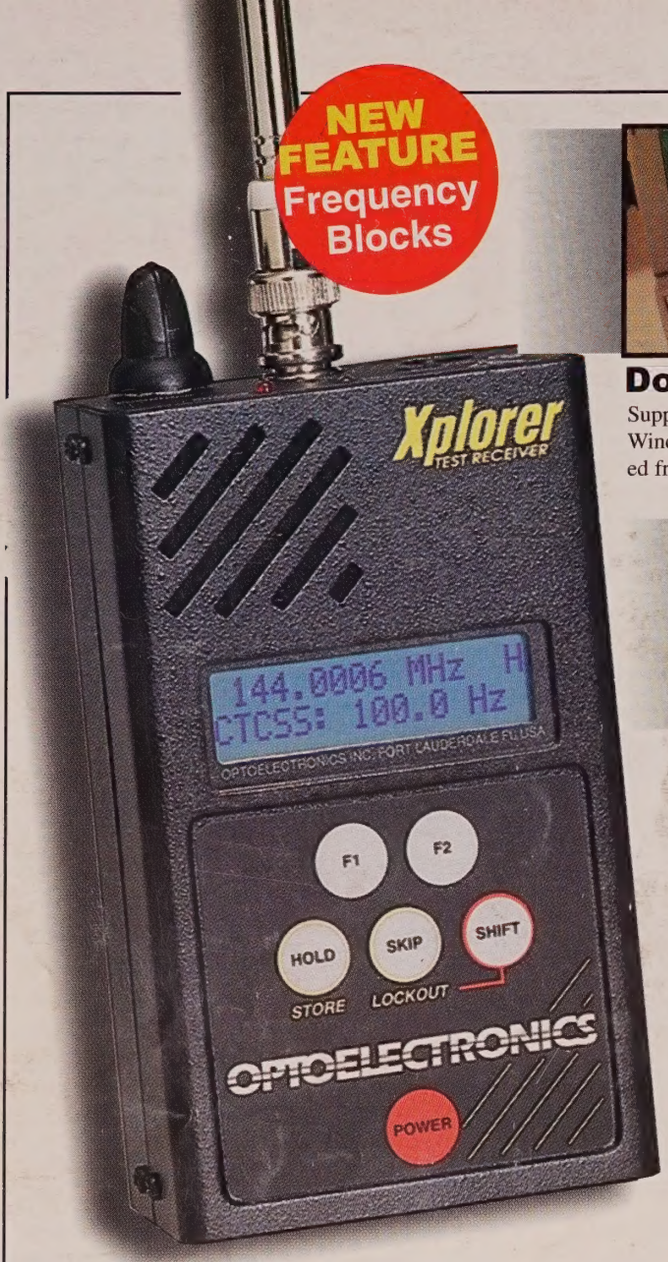

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